

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1962 - 1964

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1964

THE BOARD OF REGENTS

As of June 30, 1964

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The Honorable William K. Montague, Duluth

The Honorable Otto A. Silha, Minneapolis

The Honorable Herman F. Skyberg, Fisher

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To the Honorable Board of Regents
University of Minnesota

Gentlemen:

I have the honor to submit herewith the *Biennial Report* covering the operations of the University of Minnesota for the biennium ended June 30, 1964.

I would also like to call to your attention *The President's Report*, 1963-64. This briefer report is designed to summarize the many and varied activities of the University for a wider readership than is usually associated with the biennial report.

Sincerely,

A handwritten signature in cursive script that reads "Meredith Wilson". The signature is written in dark ink and is positioned above the printed name.

President

Minneapolis, Minnesota
July 1, 1964

BIENNIAL REPORT

1962 - 64

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS

Academic Reorganization—In the execution of plans approved by the end of the biennium 1960-62, the University undertook a profound reorganization during the two years described in this report. The chief units affected are the College of Liberal Arts (until fall, 1963, known as "College of Science, Literature, and the Arts"), the Institute of Technology, and the College of Education. But every part of the University is affected to some degree.

The guiding principle of the reorganization is the concept of "congenial academic neighborhoods" within the University, a concept approved by the Board of Regents in September, 1962. Accordingly, the following changes have been made: (1) the Department of Economics has been moved from the School of Business Administration to the Arts College, (2) the Departments of Astronomy, Geology and Mineralogy, and Mathematics have been moved from the Arts College to the Institute of Technology, (3) the Departments of Zoology and Botany have been moved from the Arts College to a newly created College of Biological Sciences, which will include the St. Paul Department of Biochemistry, and (4) the Arts College has been divided into two major divisions, with two new administrative officers—John G. Turnbull, associate dean of social sciences, and John D. Hurrell, associate dean of humanities.

Under the new organizational plan, the interrelationships among all colleges are strengthened. Certain faculty members are to hold "dual citizenship" in two or more colleges, since a department (such as Mathematics) administratively located in one college (the Institute of Technology) may continue functionally to serve another college (Liberal Arts).

A second step in reorganization was effected during this biennium when the Department of Physical Education and Athletics was dissolved and its functions divided between a new Department of Intercollegiate Athletics and a new School of Physical Education. The School is responsible to the College of Education; the Department of Intercollegiate Athletics reports directly to the Vice President for Educational Relationships and Development.

More detailed information about the reorganization may be found in the reports of the individual colleges and schools concerned.

West Bank—The expansion of the University onto the West Bank of the Mississippi was physically accomplished during this biennium. Most colleges and universities in the United States face problems of overcrowding, but the University of Minnesota has had particularly large increases in enrollment during the last four years. The West Bank campus is thus a fortunate partial answer to the problems created by these numbers.

In the fall of 1962, many classes moved to the West Bank, along with the following departments: History, Economics, Political Science, Geography, Sociology, the School of Business Administration, the School of Social Work, the Industrial Relations Center, the Family Study Center, and the Map Library. In the spring of 1964, the Public Administration Library, the Municipal Reference Bureau, and the office of newly appointed Arts College Associate Dean (Social Sciences) John G. Turnbull, all moved. It is expected that in the fall of 1964, the studios and a few classes of the Department of Art will move. Meanwhile, work continues on the much-needed new Washington Avenue bridge.

Tuition Increase—At the June 15, 1963, meeting of the Regents, it was found necessary to approve an increase in student tuition, effective for the

fall quarter, 1963. The increase, ranging from \$15 to \$45 a year for resident students and from \$60 to \$90 for nonresidents was necessary to bridge the gap between the University's needs and the money actually made available by the Legislature.

International Programs—An important new step was taken by the University this biennium, to strengthen and coordinate existing programs of teaching and research in international studies and to encourage the formulation of new programs. An Office of International Programs was established, and a Dean of International Programs appointed. Full discussion of the implications of this step is to be found in the report from the Dean of International Programs, in the section called "The Work of the University."

Regents' Statement on Academic Freedom—Concerned about the implications of certain attacks on the University, the Board of Regents in September, 1963, began drafting a statement on academic freedom. Released on December 14, 1963, and called "Freedom and the University," this statement received wide notice as a reaffirmation of the historic American concept of academic freedom. The text of the statement is as follows:

We, as members of the Board of Regents of the University of Minnesota, are responsible to the public for the health and vitality of the University. It is our responsibility to inquire continuously into the conduct of the University to ensure the preservation of this health and vitality.

The University community is a city of more than fifty thousand people. They come from every part of the country. Of the undergraduates, 94 per cent come from somewhere in Minnesota. They represent a cross section of our population, differing from a random cross section only in that they are especially selected for intellectual interests and intellectual competence. We assume that almost every type of political conviction is to be found among them, just as one would expect to find the complete variety of political, social, economic, and religious beliefs in any city of fifty thousand adults.

The University, the city, and the state do have facilities to ensure order in such a community. For varying problems of public safety we have provided ourselves with a University security staff, a city police, and the Federal Bureau of Investigation. We have confidence in the effectiveness of these law enforcement agents, and we cooperate with them. We believe the American community is fundamentally law abiding, that it abhors both resort to violence in the affairs of men and the use of extra-legal methods in the examination of alleged violations of law.

In all cases of crime or violation, the American philosophy and tradition require that we assume the citizen innocent until proved guilty. We believe it proper that the University leave the law enforcement role in American society to established law enforcement agencies. The University's tasks are learning, research, constructive criticism, and intellectual inquiry. In fulfillment of its role, the University makes its contribution to public order by nourishing devotion to the rule of reason in the conduct of human affairs.

It cannot be stated too strongly that the only atmosphere in which a university can fulfill its assigned role is the atmosphere of freedom. Nor is it surprising that in America, where free discussion is the first principle of our political faith, universities have flourished best and have made at the same time the most remarkable contribution to the public good. Those universities contributing most have been those which are most free. From the first days of our independence the giants of American history have revered the principle of free speech; they have had enough faith in our form of government to state affirmatively that if truth and error were allowed to contest in free debate, truth would triumph. They have also recognized that any effort to close a free discussion by force is destructive of the dictator and of those dictated to. The first is poisoned by power; the second is denied a share in the public dialogue. The man denied participation in free discussion loses, at the very least, his participating right as a citizen, but he may also be robbed of the dignity and self-respect which freedom encourages.

The inherent validity of free competition among ideas is as apparent in the economic community as in the educational community. No one who has observed the development of the American economy can deny the efficiency of freedom. But perhaps an example of the creativity of freedom in the economic marketplace will serve to clarify the importance of freedom to the marketplace of ideas. As recently as forty years ago, the typical market was a corner grocery store. Whether found in the country or city, it was heated by a potbelled stove, its aisles were crowded, its shelves crammed. Its proprietor helped each customer through the wilderness of items one by one. Gradually, in a kind of merchandising conversation, the entire enterprise was changed. One merchant, to increase the attraction of his business, widened the aisles; he was answered by a competitor who lowered shelves to put all items within easy reach; he in turn was answered by another who encouraged self-service. Step by step the modern supermarket was born. But no one firm jumped directly from the narrow, crowded, confused grocery store of 1920 to the specially-designed supermarket of today. A merchant's conversation was required in which free men challenged and answered each other in a free and competitive atmosphere.

The marketplace of ideas is comparable, but it is even more dependent upon a completely free conversation. The student and the professor must live in an atmosphere where questioning is encouraged, where every alternative can be explored, where their free minds may be allowed to test the validity of each idea, and where they feel free to follow wherever truth may lead. Such a free atmosphere is not merely necessary to university freedom; it is also the way of life which we have a right to associate with

America. To ask that the right of the University to this freedom be respected is not to ask for special privilege, but rather to ask for the opportunity to demonstrate the efficiency of the freedom in which we all believe and for which so many brave Americans have died. The most American activity of them all is to think, to speak, and to inquire freely. The un-American activity is to deny such freedom.

A university must cherish freedom or be untrue to its own nature. It must cherish equally responsibility, the natural corollary of freedom. In this connection, the Regents endorse the following statement adopted by the Association of American Universities in 1953 and reprinted in 1962:

"Historically the word 'university' is a guarantee of standards. It implies endorsement not of its members' views but of their capability and integrity. Every scholar has an obligation to maintain this reputation. By ill-advised, though not illegal, public acts or utterances he may do serious harm to his profession, his university, to education, and to the general welfare. He bears a heavy responsibility to weigh the validity of his opinions and the manner in which they are expressed. His effectiveness, both as scholar and teacher, is not reduced but enhanced if he has the humility and the wisdom to recognize the fallibility of his own judgment. He should remember that he is as much a layman as anyone else in all fields except those in which he has special competence. Others, both within and without the university, are as free to criticize his opinions as he is free to express them."

University teachers, as teachers, are judged for scholarly competence by their peers from the moment they aspire to membership on a faculty. The demands of such judgment are heavy, for the academic profession insists that its members be both skillful and devoted in their search for truth. The profession grants status and tenure to its members in proportion to their publicly demonstrated competence within a given academic discipline. And just as the medical profession must assume responsibility for establishing the standards of competence which admit members to the practice of medicine, so must the academic profession assume responsibility for establishing the standards of competence which qualify its members for the practice of teaching.

Just as the atmosphere of freedom within a university is the best guarantee of productive and responsible instruction, so also is it the best guarantee that students will grow toward responsible citizenship. A free society calls for citizens well-schooled in the wisdom traditional to that society. It also calls for citizens accustomed to grappling with new ideas, to participating in the give-and-take of public discussion, and to assuming public responsibility for their own thinking. Students properly assert their right to learn the responsibilities of choice and decision which they must bear as citizens, and the free university properly provides the most appropriate setting for such learning.

We cannot emphasize too strongly the importance of a free university to the development of citizens able to carry responsibility in a free society. The dangers of fanatic, angry, and irrational behavior were brought home to every American with the assassination of President Kennedy. It is time for Americans to draw closer together in dedication to our national goals. These include continued freedom, concern for the rights of others, political and spiritual tolerance, equality of opportunity, equality before the law and protection from the law's delays, and access to the blessings of justice and public order. These goals will not be won through angry and emotional outbursts that divide our people.

They can be won by systematic, rational, and thoughtful analysis of the obstacles to our national purposes. The university is of paramount importance to our nation because it seeks to bring the methods of reason to bear upon our problems—to find better means to public peace, as well as more effective ways to deter threats of violence which may be directed toward our nation. To do its rational work wisely, a university by its very nature requires freedom to inquire.

The people of Minnesota have been wise in their support of education. Their agricultural and industrial economy, as well as their public peace and safety, are the better because of this wisdom. The University, operating in an atmosphere of freedom, has made great contributions to the healthy, stable society of which we are all now so proud. We as Regents are satisfied that, to a very high degree, the faculty of the University and its administration understand the mission of the University and are using their freedom responsibly. We are satisfied that the existing agencies for enforcement of law and for protection of national peace and safety are alert and adequate to their tasks. We are also sure that the University officials are prepared to, and do, cooperate with them in assuring national safety. We are impressed by the great responsibilities related to national safety and prosperity that are continuously entrusted to University personnel, and we wish to take this opportunity to reaffirm our faith in the University and in the efficiency of freedom.

In a special statement released on February 1, 1964, Board of Regents Chairman Charles W. Mayo reaffirmed the Board's confidence in the faculty and students of the University, emphasized the University's autonomy and the Board's responsibility for the University, and expressed the Board's willingness to inform any "properly constituted body" about the employment practices of the University. A State Senate investigating committee, meeting in May and June, 1964, did request such information; members of the Board and members of the University administration appeared to furnish it.

All-University Council on Liberal Education—Having been authorized by the faculty Senate during the previous biennium, the All-University Council

* The Rights and Responsibilities of Universities and Their Faculties.

on Liberal Education was formed and began meeting during 1962-64. Comprised of representatives from every part of the University, and under the chairmanship of the assistant vice-president for academic affairs, the Council has been seeking to develop policies which will establish a minimum definition of "liberal education" to govern all Bachelor's degrees offered by any college of the University. Faculty members throughout the University are in agreement that the Bachelor's degree must have some common meaning, that this meaning is to be found in a core of "liberal education," and that the increasing fragmentation caused by the rapidly accelerating specialization of knowledge is an undesirable phenomenon. The Council was established because of these generally held positions. After meeting throughout the year 1963-64, it submitted a preliminary report for discussion, including recommendations about the nature of undergraduate distribution requirements and a tentative set of categories for describing the total University curriculum.

Liaison Committee on Higher Education in Minnesota—The University participated, through its representatives, in the work of the Liaison Committee on Higher Education in Minnesota. During the biennium, the Committee focused its attention on a number of significant areas: (1) it called attention to the need for additional junior colleges, particularly in the Twin Cities area and in southwestern Minnesota; (2) it pointed out the need for and suggested possible ways of cooperating educationally with neighboring states; (3) it has attempted a specification of the functions to be served by the various types of institutions within the state; (4) it has made a state-wide curriculum study; and (5) it has broadened its membership by inviting representatives from the State Junior College Board and from the private colleges in the state. The University has strongly supported the efforts of the Committee to develop an overall coordination of higher education in the state.

Outstanding Achievement Awards—Outstanding achievement medals and citations, authorized by the Regents on December 17, 1947, have been conferred on 388 individuals through June 30, 1964.

The 31 awards conferred during 1962-64 were presented at various events, dinners, luncheons, meetings, banquets, and anniversaries both on and off the campus. The names of the distinguished alumni who received these awards during the biennium are as follows:

John S. Allen
George B. Amidon
Louis T. Austin
Clyde H. Bailey
Arthur A. Barlow
Gladys S. Brooks
Anne H. Carlsen
Chauncey I. Cooper
Everett M. Dirksen
Orville L. Freeman
Walter H. Gaumnitz
Samuel S. Grais
Richard L. Griggs
Delbert F. Jurgensen
Oscar R. Knutson
Max A. Lauffer, Jr.

Margaret W. McCullough
John A. Moorhead
Lloyd E. Musburger
Phillip J. Rulon
Richard M. Scammon
Vard M. Shepard
Bryan E. Smith
Edward C. Stafne
Helen M. Starr
William M. Steinke
Harry C. Trelogan
Robert M. Trueblood
Leona E. Tyler
Wilfred W. Wetzel
Robert F. Woodward

Alumni Service Award—This award was approved by the Regents on February 8, 1957, to be conferred upon alumni or former students of the University of Minnesota in recognition of service to the University, its schools, colleges, departments, or faculty, or to the Alumni Association or any of its constituent groups. Alumni service awards have been conferred upon 26 individuals through June 30, 1964. Recipients during this biennium were as follows:

Walter Blumst
Kenneth C. Glaser
J. D. Holtzermann
Virgil J. P. Lundquist
Eugene Lysen

Howard B. Palmer
Anne Thorbeck Richter
Parker D. Sanders
C. Herman Welch

Regents Award—On January 11, 1963, the Regents Award was conferred upon Richard L. Griggs, resigning Regent from Duluth. The text of the citation is as follows:

RICHARD L. GRIGGS

BORN in Barclay, Pennsylvania, he spent his formative years in Virginia, Minnesota. A graduate of the Virginia High School, he matriculated at the University of Minnesota in 1903 where, with characteristic vigor, he participated in student activities and became associate editor of *The Daily* during the 1906-07 academic year. Following his graduation (B.A., 1907), he began at once to move to notable financial and industrial achievement on the Iron Range and in Duluth, retaining always his cherished ties with his *alma mater*. By perseverance and insight he has developed important areas of commerce and has become a commanding figure in the worlds of banking, mining, and transportation. Aware that success carries with it a large measure of obligation, he has given tirelessly of his tremendous energies in helping others build careers. As a Regent of the University of Minnesota since 1939, he has earned the affectionate title of "The Voice of the University in Northern Minnesota." His devoted leadership has helped the University of Minnesota, Duluth, to achieve an honored place within the fellowship of American institutions of higher learning. He has been the recipient of many business, community, and University awards. His name appropriately adorns the Duluth Hall of Fame as testament to an abiding concern for all that contributes to the good of his townspeople. His enthusiasm for hunting and fishing, which has taken him to all parts of the world, expresses the zest for activity that permeates his entire life.

BECAUSE he has recognized that the State's young men and women are its most precious resource and has dedicated himself to opening new educational avenues on their behalf, because his benefactions will endure for all time to encourage talent and aspiration, because he has faithfully fulfilled his trusteeship of the University with integrity and a compelling sense of responsibility and now ends twenty-four years as a Regent, because he has served his University, his community, and his State with a total commitment to their growth, the Regents of the University of Minnesota confer upon Richard L. Griggs the Regents Award in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

PRESENTED This Eleventh Day of January, in the Year of Our Lord, the One Thousand Nine Hundred and Sixty-third, and of the University of Minnesota, the One Hundred and Eleventh.

Death of Guy Stanton Ford, Sixth President of the University—After the passing, on December 29, 1962, of Guy Stanton Ford, president of the University of Minnesota from 1938 to 1941, the Regents approved, on January 11, 1963, the following resolution in memory of his service to the University and the State:

For twenty-eight years, Guy Stanton Ford served the University of Minnesota. As professor of history, dean of the Graduate School, and president, his scholarship and his administrative skill had an impact that will long be felt and never forgotten. A brilliant lecturer in his chosen field of history, he stimulated and motivated countless students—graduate and undergraduate alike—who sat spellbound in his classroom. All over the world are Minnesota M.A.'s and Ph.D.'s who with pride and warmth of affection identify graduate education with the personality and the image of "Dean Ford."

For faculty and administrative associates, President Ford was the symbol of scholarly integrity, engendering a confidence and a morale that were vital in creating and sustaining the productive academic environment that has long characterized the University of Minnesota. As professor and as president, he appreciated the fundamental meaning of academic freedom, and the tenure code of the University of Minnesota—a model that has been copied far and wide—is a tribute to his courage and his vision. The part he played in its development was among the major satisfactions to Dr. Ford as he looked back over a career rich in satisfactions.

Dr. Ford came to the Minnesota campus in 1913 as professor of history and dean of the Graduate School. Under his guidance, graduate education at Minnesota was transformed from a scattered program involving fewer than 160 students, into a major academic enterprise that enrolled 2,000 students, when in 1938 he left the deanship to assume the presidency. The development of the Graduate School was Dr. Ford's major contribution, but there are few significant developments at the University during the years of his residence with which his name is not associated: The University of Minnesota Press, the Institute of Child Welfare, the General College, the relationship with the Mayo Foundation, the Summer Session, the Committee on Educational Research, University College, the upbuilding of the Library: these are examples.

Of Dr. Ford, it has been said that he was "a man determined to light fires in human minds." How well he succeeded is evident to all who know the history of the University of Minnesota and are familiar with the accomplishments of the stream of graduates who left its classrooms to make their mark throughout the world.

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The Regents of the University are mindful of all that Dr. Ford meant to the University, to the state, and to the wider world of scholarship. They recognize his manifold accomplishments. They appreciate his years of devoted service. They are proud of the singleness of his purpose in seeking through the Graduate School to make the University of Minnesota a great center of research and learning. For all of this, they express appreciation for themselves, for the campus community, and for the people of the state.

A great and good public servant and scholar has passed from the scene, and they mourn his passing. To Mrs. Ford and to his two children and their families, they express their sympathy, and they request that a copy of this resolution, now to be inscribed in the enduring records of the University, be transmitted to them.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

The 1963 Legislature re-elected the following regents for 6-year terms: Fred J. Hughes, Sixth Congressional District, and Otto A. Silha, Third Congressional district.

Regent A. J. Olson, who would have served as a Regent until 1967, submitted his resignation on January 13, 1964. He had served since 1929. Governor Karl Rolvaag appointed Gerald W. Heaney to fill the vacancy until the 1965 session of the Legislature. Mr. Heaney attended St. Thomas College from 1935-37 and was a graduate of our Law School in 1941.

Regent Richard L. Griggs retired February 1, 1963, having served since 1939. He received the Regents' certificate of merit on June 15. The Senate and House of Representatives of our legislature adopted the following resolution, April 10, 1963:

Of Congratulations and Admiration for Richard L. Griggs
for His Many Years of Community Service and as
a Regent of the University of Minnesota

Whereas Richard L. Griggs has devoted many years in service to his community and to his state; and

Whereas Richard L. Griggs has had a successful business career and by perseverance and insight has developed important areas of commerce and has become a commanding figure in the worlds of banking, mining and transportation; and

Whereas Richard L. Griggs has served his community for many years including 33 years as a director of the Community Chest and as its President in 1938, and as vice chairman of the Duluth Chapter of the Infantile Paralysis Foundation, and as President of the Minnesota Arrowhead Foundation; and

Whereas Richard L. Griggs served as a Regent of the University of Minnesota from 1939 to 1963; and

Whereas Richard L. Griggs was a tireless worker for the University of Minnesota, Duluth and gave generously of himself and of his own resources to assure that the University of Minnesota, Duluth achieved an honored place among the institutions of higher learning of the United States; Now, therefore, be it

Resolved by the House of Representatives and the Senate of the State of Minnesota, in joint convention assembled, That we extend our admiration and congratulations to Richard L. Griggs for his many years of community service and devotion to the cause of higher learning in the State of Minnesota; and be it further

Resolved, That the Chief Clerk of the House of Representatives be instructed to prepare a formal copy of this resolution, embodying the sentiments expressed herein, and deliver it to Richard L. Griggs.

William K. Montague of Duluth, a lawyer and counsel for the Reserve Mining Co., was elected by the 1963 Legislature to succeed Regent Griggs to a 6-year term, representing the Eighth Congressional District.

It is with regret that we report the deaths of two former Regents, Charles R. Butler, Sr., age 83, on May 8, 1963, and Charles L. Sommers, age 94, on March 11, 1964. Mr. Butler served from 1931-35 and Mr. Sommers from 1910-23.

Faculties

RETIREMENTS

Each year some members of the faculty reach the age of compulsory retirement, bringing to a close a long period of active association with the University.

The following staff members, with their years of service indicated in parentheses, retired during the biennium.

1962-63

- Harold Macy, dean and professor emeritus, Institute of Agriculture (1919-63).
 Julius M. Nolte, dean and professor emeritus, Extension Division (1923-63).
 J. William Buchta, associate dean and professor emeritus, Upper Division SLA and physics (1921-62).
 Isaac J. Armstrong, director and professor emeritus, physical education and athletics for men (1950-63).
 Elmer R. Ausemus, professor emeritus, agronomy and plant genetics (1947-63).
 Emmert M. Brackney, professor emeritus, Romance Languages (1929-63).
 John H. Grindlay, professor emeritus, surgery, Mayo Foundation (1946-62).
 Raymond L. Grismer, professor emeritus, Romance Languages (1931-63).
 Thomas L. Joseph, professor emeritus, School of Mines and Metallurgy (1936-63).
 James D. Kelly, professor emeritus, physical education and athletics for men (1937-63).
 Frank H. Krusen, professor emeritus, physical medicine and rehabilitation, Mayo Foundation (1936-63).
 Lennox A. Mills, professor emeritus, political science (1928-63).
 Tracy F. Tyler, professor emeritus, College of Education and assistant to the Vice President of Academic Administration (1938-63).
 Alexander E. Brown, associate professor emeritus, medicine, Mayo Foundation (1928-63).
 Robert M. Douglass, associate professor emeritus, State Leader-Program Planning, Agricultural Extension (1937-62).
 Arvid B. Hagen, associate professor emeritus, district supervisor county extension work, Agricultural Extension (1937-63).
 Victor P. Hauser, clinical associate professor emeritus, surgery (1924-63).
 Edward A. Regnier, clinical associate professor emeritus, School of Public Health (1925-63).
 Roger S. Harris, assistant professor emeritus, extension specialist soil conservation, Agricultural Extension (1943-63).
 Nanna Jelstrup, assistant professor emeritus, West Central School of Agriculture (1929-63).
 Eleanor Young Loomis, assistant professor emeritus, consumer marketing specialist, Agricultural Extension (1943-62).
 Bernard F. McKenzie, assistant professor emeritus, physiological chemistry, Mayo Foundation (1922-62).
 Alfred H. Ouellette, clinical assistant professor emeritus, pediatrics (1933-63).
 George M. Tangen, clinical assistant professor emeritus, otolaryngology (1943-62).
 Fern B. Johnson, instructor emeritus, West Central School of Agriculture (1940-63).
 Torfen F. Saholt, instructor emeritus, mortuary science (1932-37; 1956-63).
 Henry E. Erickson, lecturer emeritus, School of Public Health (1954-63).

1963-64

- Malcolm M. Willey, vice president Administration, professor emeritus (1927-63).
 Ray M. Amberg, Distinguished Service Director, professor emeritus University of Minnesota Hospitals (1924-64).

- Edward J. Baldes, professor emeritus, biophysics, Mayo Foundation (1925-63).
 Nelson W. Barker, professor emeritus, medicine, Mayo Foundation (1930-64).
 Joseph R. Berkson, professor emeritus, biometry and medical statistics, Mayo Foundation (1934-64).
 Samuel Eddy, professor emeritus, zoology (1929-63).
 Edward T. Evans, professor emeritus, orthopedic surgery (1927-64).
 Haddow M. Keith, professor emeritus, pediatrics, Mayo Foundation (1939-64).
 Joseph T. King, professor emeritus, physiology (1926-64).
 Walter M. Lauer, professor emeritus, School of Chemistry (1920-64).
 Charles W. Mayo, professor emeritus, surgery, Mayo Foundation (1932-63).
 Skuli Rutford, director-professor emeritus, Agricultural Extension (1934-63).
 Arthur J. Schwantes, professor emeritus and head, agricultural engineering (1920-64).
 George B. Vold, professor emeritus, sociology (1927-64).
 Henry L. Williams, Jr., professor emeritus, otolaryngology, Mayo Foundation (1934-63).
 Walter H. Fink, clinical professor emeritus, ophthalmology (1925-64).
 Thomas J. Kinsella, clinical professor emeritus, surgery (1926-64).
 Hyman S. Lippman, clinical professor emeritus, psychiatry and neurology and pediatrics (1923-64).
 John M. Berkman, associate professor emeritus, medicine, Mayo Foundation (1932-63).
 Frank Buckley, associate professor emeritus, English (1929-64).
 Mark M. Keith, associate professor emeritus, Biology, University of Minnesota at Duluth (1947-64).
 Frank J. Kovach, associate professor, industrial education, University of Minnesota at Duluth (1929-64).
 Cletus F. Murphy, agricultural agent-associate professor, Waseca County (1934-64).
 Charles Hymes, clinical associate professor emeritus, ophthalmology (1928-64).
 Else H. Bockstruck, assistant professor emeritus, physical education for women (1925-30; 1943-64).
 Lloyd F. Boyce, assistant professor emeritus, School of Physical Education (1924-64).
 Hedda Kafka, assistant professor emeritus, home economics education (1927-64).
 Olive B. Opp, Polk County home agent-assistant professor emeritus, Agricultural Extension Service (1949-64).
 Robert Rosenthal, clinical assistant professor emeritus, pediatrics (1927-64).
 Jeanette L. Bruce, instructor emeritus, Laboratory School, University of Minnesota at Duluth (1937-64).
 James J. Swendsen, clinical instructor emeritus, obstetrics and gynecology (1930-64).

TERMINATIONS, 1962-63

- Werner W. Boehm, professor, School of Social Work, effective June 15, 1963, to accept deanship of School of Social Work at Rutgers University.
 Paul D. Boyer, professor of biochemistry, College of Medical Sciences, effective June 30, 1963, to accept position at University of California, Los Angeles.
 Martin Bronfenbrenner, professor of economics, effective June 15, 1963, to accept professorship at Carnegie Institute of Technology, Pittsburgh.
 Allan H. Brown, professor of botany, effective June 15, 1963, to accept a position at University of Pennsylvania.
 Maynard M. Cohen, professor of psychiatry and neurology, effective at close of 1962-63, to accept position as head of Division of Neurology at University of Illinois, and chairman of department of neurology at Presbyterian-St. Luke's Hospital in Chicago.
 Lorenz E. A. Eitner, professor of art, effective July 20, 1963, to accept position at Stanford University.
 Eugene H. Falk, professor and chairman, Romance Languages, effective June 15, 1963, to accept a professorship at Dartmouth University.

- John H. Grindlay, professor of surgery, Mayo Foundation, effective December 31, 1962, due to disability.
- Werner Levi, professor of political science, effective June 15, 1963, to accept a position at University of Hawaii.
- Huntington Miller, professor of evening and special classes, and associate dean of General Extension Division, effective June 30, 1963.
- Donn G. Mosser, professor and director, division of radiation therapy, Department of Radiology, effective June 15, 1963, to go into private practice.
- Carl L. Nelson, professor and chairman of accounting, School of Business Administration, effective June 15, 1963, to accept the George O. May Chair of Financial Accounting at Columbia University.
- James J. Ryan, Jr., professor of mechanical engineering, effective June 15, 1963, due to disability.
- I. Richard Savage, professor of statistics, effective June 15, 1963, to accept professorship at Florida State University.
- John Sirjamaki, professor of sociology, effective June 15, 1963, to accept a position at University of Buffalo.
- Karl Sollner, professor of biochemistry, College of Medical Sciences, effective June 15, 1963.
- Marvin J. Taves, professor of sociology, effective at close of 1962-63, to accept a position at University of Miami, Florida.
- Stefan E. Warschawski, professor and head of mathematics, Institute of Technology, effective at close of 1962-63, to accept position at University of California, La Jolla.
- Robert L. Bliss, associate professor, School of Architecture, effective June 15, 1963, to accept position at University of Utah.
- Fred H. Blum, associate professor of Interdisciplinary Programs, effective June 15, 1963, to remain in England.
- Morgan Blum, associate professor of Interdisciplinary Programs, effective June 15, 1963, due to illness.
- Harry M. Bracken, associate professor of philosophy, effective June 15, 1963, to accept position at Arizona State University, Tempe.
- Ray E. Burger, associate professor of poultry science, effective June 30, 1963, to accept position at University of California, Davis.
- Sudhish G. Ghurye, associate professor of statistics, effective June 15, 1963, to accept position at Indiana University, Bloomington.
- Robert L. Hall, associate professor of sociology, Student Activities Bureau, effective at close of 1962-63, to continue his work with National Science Foundation, Washington, D.C.
- Robert L. Lathrop, associate professor Bureau of Institutional Research, effective June 30, 1963, to accept position at Pennsylvania State University.
- Edith M. Lentz, associate professor, School of Public Health, effective December 15, 1962, marriage.
- Fletcher A. Miller, associate professor of surgery, effective June 30, 1963, to accept chairmanship of department of surgery at Creighton University, Omaha.
- Joseph G. Millichap, associate professor of pediatric neurology and pharmacology, Mayo Foundation, effective June 30, 1963, to accept a position at Children's Memorial Hospital, Chicago.
- Richard E. Norris, associate professor of botany, effective November 30, 1962, to accept position with Smithsonian Institution, Washington, D.C.
- Marvin G. Pursinger, associate professor of history, University of Minnesota at Morris, effective June 15, 1963.
- Reuben J. Silver, associate professor and clinical psychologist, Division of Clinical Psychology, effective August 31, 1962, to accept position at Albany Hospital, Albany, New York.
- Walter H. Uphoff, associate professor, Industrial Relations Center, effective June 15, 1963, to accept position at University of Colorado, Boulder.
- Brom Weber, associate professor of English, effective at close of 1962-63, to accept position at University of California, Davis.
- Bob G. Woods, associate professor of general education, College of Education, effective June 15, 1963, to accept position at University of Missouri.
- Norman E. Abelson, assistant professor of music, effective June 15, 1963, to accept position at University of Kansas.

- Korkut Bardakci, assistant professor School of Physics, effective June 15, 1963, to become a staff member at Institute for Advanced Study, Princeton, New Jersey.
- James F. Burks, assistant professor of Romance Languages, effective June 15, 1963, to accept position at University of Texas, Austin.
- Lewis S. Carey, assistant professor of radiology, effective September 30, 1962, to join group of radiologists, Schons, Medelman and Nash of St. Joseph's Hospital, St. Paul.
- Edward C. Clark, assistant professor of neurology, Mayo Foundation, effective March 31, 1963, for health reasons.
- Richard J. Cody, assistant professor of English, effective June 15, 1963, to accept a position at Amherst College.
- Peter L. Crawley, assistant professor of Mathematics, SLA, effective June 15, 1963, to accept position at California Institute of Technology.
- Glenn H. Daniels, assistant professor, West Central School and Station, effective March 31, 1963, to accept position at Western Illinois College.
- Stanley M. Dennis, assistant professor of pathology and parasitology, College of Veterinary Medicine, effective July 31, 1963, to return to Australia.
- Richard A. DeWall, assistant professor of surgery, effective October 15, 1962, to accept a position at University of Chicago Medical School.
- Richard D. Durbin, assistant professor of plant pathology and botany, effective August 31, 1962, to accept a position at University of Wisconsin.
- Karl D. Fezer, assistant professor, Division of Science and Mathematics, University of Minnesota at Morris, effective June 15, 1963, to accept a position at St. John's College, Annapolis, Maryland.
- John Forster, assistant professor of sociology, effective May 23, 1963, to accept a position in New Zealand.
- Frances Guzie, assistant professor, School of Social Work, effective June 15, 1963.
- William T. Hall, assistant professor, School of Public Health, effective August 11, 1962, to accept a position at University of Michigan.
- Ronald A. Helin, assistant professor of geography, effective June 15, 1963, to accept a position at Orange State College, Fullerton.
- Robert A. Kay, clinical assistant professor, School of Dentistry, effective June 15, 1963, for private practice.
- Jaakko K. Kihlberg, assistant professor, Laboratory of Physiological Hygiene, School of Public Health, effective June 30, 1963, to accept a position as chief research analyst of the ACIR Group of Cornell Aeronautical Laboratories, Inc., Buffalo, New York.
- Edwin Kinnen, assistant professor of electrical engineering, effective June 15, 1963.
- Virgil J. Kroeger, assistant professor of sociology, University of Minnesota at Duluth, effective June 15, 1963, to accept a position at Moorhead State College.
- Cecelia R. Lediger, assistant professor, School of Nursing, effective September 22, 1962, to complete doctoral dissertation for Doctor of Education degree at Teachers College, Columbia University.
- Davey E. Lieb, clinical assistant professor, School of Dentistry, effective June 15, 1963.
- Miles H. Mauney, assistant professor of music, effective June 15, 1963, to accept a position at Oberlin College Conservatory of Music.
- Eugenia J. McClure, assistant professor, School of Nursing, effective December 31, 1962.
- Amos Nannini, assistant professor of mathematics, University of Minnesota at Duluth, effective June 15, 1963, to return to Italy.
- Robert N. Nelson, clinical associate professor, School of Dentistry, effective June 15, 1963.
- David S. Palermo, assistant professor, Institute of Child Development, effective June 15, 1963, to accept a position at Pennsylvania State University.
- Lloyd E. Pearson, clinical assistant professor, School of Dentistry, effective June 15, 1963.
- Eugene R. Rodemich, assistant professor of mathematics, Institute of Technology, effective June 15, 1963.

- Robert Q. Royer, assistant professor of dental surgery, Mayo Foundation, effective December 31, 1962.
- Richard M. Steidl, assistant professor of physical medicine and rehabilitation, effective May 15, 1963.
- Velda Stonecypher, assistant professor of music, University of Minnesota at Duluth, effective June 15, 1963.
- Lincoln H. Turner, assistant professor of mathematics, SLA, effective June 15, 1963.
- Ruth D. Weise, assistant professor, School of Nursing, effective June 30, 1963, to work for her Doctor's degree at University of Washington, Seattle.

TERMINATIONS, 1963-64

- Ralph L. Kitchell, associate dean, College of Veterinary Medicine, and professor of veterinary anatomy, effective June 30, 1964, to accept deanship of the College of Veterinary Medicine at Kansas State University, Manhattan, Kansas.
- William Fleeson, assistant dean, College of Medical Sciences and associate professor of psychiatry-neurology, effective September 15, 1963, to become associate dean at the University of Connecticut Medical School.
- Woodrow J. Aunan, professor of animal husbandry, effective at close of 1963-64, to accept position as director of American Meat Institute Foundation, and Director of Scientific Services.
- Glen E. Baxter, professor of mathematics, effective June 15, 1964, to accept position at the University of California, La Jolla.
- Eugenio Calabi, professor, School of Mathematics, effective June 15, 1964, to accept position at the University of Pennsylvania.
- Luverne L. Cunningham, professor of general education, College of Education, effective June 15, 1964, to accept position as director of the Midwest Administration Center and professor of educational administration at the University of Chicago.
- Joseph G. Gall, professor of zoology, effective June 15, 1964, to accept professorship at Yale University.
- Bernard R. Gelbaum, professor and associate chairman School of Mathematics, effective at close of 1963-64, to accept a position at the University of California, Irvine.
- J. Francis Hartmann, professor of anatomy, effective June 15, 1964, to accept a position in neurology in Presbyterian-St. Luke's Hospital Chicago, Illinois.
- Henry Lepp, professor of geology, University of Minnesota at Duluth, effective at close of 1963-64, to accept position at Macalester College.
- Gardner Lindzey, professor of psychology, effective June 15, 1964, to accept chairmanship of psychology department at University of Texas.
- Ruby B. Pernell, professor, School of Social Work, effective December 31, 1963, to accept position as social welfare attaché to the U.S. Embassy in New Delhi, India.
- Helmut Röhr, professor, School of Mathematics, effective June 15, 1964, to accept position at University of California, San Diego.
- T. Michael Sanders, Jr., professor, School of Physics, effective June 15, 1964, to accept position at University of Michigan.
- Grover C. Stephens, professor of zoology, effective June 15, 1964, to accept a position at the University of California, Irvine.
- Aram Vartanian, professor of Romance Languages, effective June 15, 1964, to accept a professorship at New York University.
- C. Gilbert Wrenn, professor, College of Education, effective January 15, 1964, to accept position at Arizona State University, Tempe.
- Donald R. Yennie, professor, School of Physics, effective June 15, 1964, to accept a position at Cornell University.
- Glenn M. Christensen, associate professor of chemistry, University of Minnesota at Duluth, for research work at Altoona Hospital, Altoona, Pennsylvania.
- Howard R. Davis, clinical associate professor of psychiatry-neurology, effective December 1, 1963, to accept position with NIMH, Bethesda, Maryland.

- Kathryn M. Fritz, associate professor and assistant director, public health nursing, School of Public Health, effective August 24, 1963.
- Orazio Fumagalli, associate professor of art, University of Minnesota at Duluth, effective June 15, 1964, to accept position at Stout State College.
- Eleanor G. Gifford, associate professor-District Supervisor, Home Economics Extension, Agricultural Extension, effective November 14, 1963.
- Harold L. Hayes, associate professor of speech and dramatics, University of Minnesota at Duluth, effective at close of 1963-64, to accept directorship of speech training with Smith, Kline and French Pharmaceutical Laboratories, Philadelphia, Pennsylvania.
- J. Robert Jensen, associate professor, Speech and Hearing Clinic, effective December 25, 1963, to accept a position at Utah State University, Logan.
- Howard F. Koeper, associate professor, School of Architecture, effective June 15, 1964, to accept a position at University of Illinois, Chicago.
- LeRoy C. McLaren, associate professor of microbiology, effective June 30, 1964, to accept chairmanship of department of microbiology at the University of New Mexico.
- George W. Preckshot, associate professor of chemical engineering, effective June 15, 1964, to accept position at the University of Missouri.
- Diedrich Reimer, associate professor at Northwest School of Agriculture, effective April 30, 1964, to accept position at University of Hawaii, Hilo.
- Benjamin R. Reiter, associate professor, School of Public Health, and assistant director, University Health Service, effective June 30, 1964, to accept a position at the University of Miami, Coral Gables, Florida.
- Joseph V. Scaletti, associate professor of animal husbandry, effective August 31, 1964, to accept position at the University of New Mexico.
- William R. Schmalstieg, associate professor of Slavic and Oriental languages, effective June 15, 1964, to accept a position at Pennsylvania State University.
- Robert G. Schmidt, associate professor of sociology, University of Minnesota at Duluth, effective at close of 1963-64, to accept a professorship at Lindenwood College, St. Charles, Missouri.
- Karl L. Selig, associate professor of Romance Languages, effective June 15, 1964, to accept position at the University of Texas.
- Richard B. Simons, associate professor of evening and special classes, General Extension Division, effective August 31, 1963, to accept position as assistant dean at George Washington University, Washington, D.C.
- Donald B. Aird, assistant professor of music, effective June 15, 1964.
- Richard M. Barker, assistant professor of civil engineering, effective June 15, 1964, to accept position at Virginia Polytechnic Institute.
- James W. Barnard, assistant professor, Institute of Child Development, effective June 15, 1964.
- Phil R. Berger, assistant professor of radiology, effective October 15, 1963, to go into private practice.
- Saul Blumenthal, assistant professor of mechanical engineering, effective June 15, 1964, to accept position at Rutgers University.
- Eleanor P. Bonte, assistant professor of psychology, University of Minnesota at Duluth, effective June 15, 1964, husband transferred to Pittsburgh, Pennsylvania.
- Francis J. Boyer, assistant professor of music education, effective June 15, 1964.
- William O. Caster, assistant professor of biochemistry, College of Medical Sciences, effective August 24, 1963, to accept position at the University of Georgia.
- Elizabeth M. Cranston, assistant professor of pharmacology, effective at close of 1963-64.
- Wallace F. Doerr, assistant to the Dean, and assistant professor, School of Business Administration, effective April 30, 1964, to accept position as secretary of the City Employees Retirement Fund, Minneapolis.
- Marion R. Fedde, assistant professor of veterinary anatomy and poultry science, effective at close of 1963-64, to accept position at Kansas State University, Manhattan, Kansas.
- H. Donald Ferris, assistant professor and librarian, St. Paul Library, effective October 15, 1963, to accept position at Purdue University.

- Mildred R. Gausman, assistant professor, Division of Science and Mathematics, University of Minnesota at Morris, effective December 15, 1963, because of family commitments.
- Dorothy P. Geis, assistant professor, School of Nursing, effective September 26, 1963, to accept position at the University of North Dakota School of Nursing.
- August R. Hanson, assistant professor of aeronautics and engineering mechanics, effective June 15, 1964, to accept position with Litton Industries.
- W. Carl Jackson, Jr., assistant professor and chief acquisitions librarian, effective September 20, 1963, to accept position at the University of Colorado, Boulder.
- Milton D. Jacobson, assistant professor, Division of Science and Mathematics, University of Minnesota at Morris, effective June 15, 1964, to accept a position at the University of Virginia.
- Thomas C. Jegla, assistant professor of zoology, University of Minnesota at Morris, effective June 15, 1964, to accept a position at Yale University.
- J. Dorrance Kiser, assistant professor of art, University of Minnesota at Duluth, effective at close of 1963-64.
- Frank B. Knight, assistant professor of mathematics, effective June 15, 1964, to accept position at the University of Illinois.
- Clayton R. Lagerquist, assistant professor, School of Public Health and health physicist, University Health Service, effective September 14, 1963, to accept position with Dow Chemical Company, Rocky Flats, Colorado.
- Guy Miles, clinical assistant professor of psychiatry-neurology, effective June 1, 1964, on staff of North Star Research Center, Minneapolis.
- Karl F. Morrison, assistant professor of history, effective June 15, 1964, to accept position at Harvard University.
- N. Ole Nielsen, assistant professor of veterinary pathology and parasitology, effective June 30, 1964, to accept position at the University of Saskatchewan.
- Ruth F. Pennebaker, assistant professor, School of Public Health, effective September 23, 1963, for graduate work.
- Bernard Sandler, assistant professor of psychiatry-neurology, effective December 31, 1963, to accept position at Temple University, Philadelphia, Pennsylvania.
- Larry A. Sjaastad, assistant professor of economics, effective June 15, 1964, to accept position at the University of Chicago.
- E. Barbara B. Stocking, assistant professor, School of Public Health, effective September 23, 1963, to accept position at the University of North Carolina.
- William M. Trygstad, clinical assistant professor, School of Dentistry, effective June 15, 1964, to devote more time to private practice.
- Hannah K. Walseth, assistant professor, School of Nursing, effective September 28, 1963.
- Wallace M. Wass, assistant professor of veterinary medicine and clinics, effective January 31, 1964, to accept a position at Iowa State University, Ames.
- James A. Wright, assistant professor of English, effective June 15, 1964, to accept position at Macalester College.

APPOINTMENTS, 1962-63

Professors

- Luverne L. Cunningham as professor of general education and Bureau of Field Studies and Surveys
 B.A. 1949, Midland College (Fremont, Nebraska); M.S. 1952, University of Omaha; Ed.D. 1958, University of Oregon
- James F. Hammarsten as professor of medicine, Ancker Hospital
 B.S. 1943, M.D. 1945, University of Minnesota
- Gilbert J. Mannering as professor of pharmacology
 B.S. 1940, M.S. 1943, Ph.D. 1944, University of Wisconsin

Frederick E. Shideman as professor and head, Pharmacology

B.A. 1936, Albion College; Ph.D. 1941, University of Wisconsin; M.D. 1946, University of Michigan

Allen R. Solem as professor of business functions and management, School of Business Administration

B.A. 1938, University of Minnesota; M.A. 1948, Wayne University; Ph.D. 1952, University of Michigan

Associate Professors

Wesley J. Birge as associate professor of biology, Division of Science and Mathematics, University of Minnesota at Morris

B.A. 1951, Eastern Washington State College; M.S. 1953, Ph.D. 1955, Oregon State University

John O. Buxell as associate professor, School of Public Health

B.S. 1934, M.S. 1936, Washington University; M.P.H. 1948, University of Minnesota

George C. Christie as associate professor, Law School

B.A. 1955, LL.B. 1957, Columbia College; S.J.D. 1961, Harvard University

Martin Dworkin as associate professor of microbiology

B.A. 1951, Indiana University; Ph.D. 1955, University of Texas

Jorge R. Fontana as associate professor of electrical engineering

B.S. 1952, M.S. 1954, Massachusetts Institute of Technology; Ph.D. 1960, Stanford University

LaVern A. Freeh as associate professor and head, Agricultural Short Courses

B.S. 1951, North Dakota State University; M.A. 1958, Ph.D. 1962, Michigan State University (East Lansing)

Eville Gorham as associate professor of botany

B.S. 1945, M.S. 1947, Dalhousie University; Ph.D. 1951, University College (London)

E. Gartly Jaco as associate professor, School of Public Health, Division of Hospital Administration

B.A. 1949, M.A. 1950, University of Texas; Ph.D. 1954, Northwestern University

Karlis Kaufmanis as associate professor of astronomy

diploma 1930, State Teachers Institute (Riga, Latvia); Cand. Math. 1939, Mag. Math. 1943, University of Latvia

Garland K. Lewis as associate professor, School of Nursing

B.S. 1950, M. Nursing 1957, University of Washington

Robert E. McAdam as associate professor of physical education and athletics

B.S. 1948, De Paul University (Chicago); M.S. 1949, Ph.D. 1955, University of Illinois

Arthur R. Miller as associate professor, Law School

A.B. 1955, University of Rochester; LL.B. 1958, Harvard University

Jack W. Miller as associate professor of pharmacology

B.A. 1949, San Diego State College; M.S. 1952, Ph.D. 1954, University of California

J. Gordon Millichap as associate professor of pediatric neurology and pharmacology, Mayo Foundation

M.B., B.S. 1946, London University; M.D. 1950, Saint Bartholomew's Hospital and College (London)

Jerome Moss, Jr., as associate professor of trade and industrial education

B.S. 1947, Carnegie Institute of Technology; professional certificate in meteorology 1944, University of Chicago; M.A. 1957, Teachers College, Columbia University; Ed.D. 1960, University of Illinois

Louis H. Muschel as associate professor of microbiology

B.S. 1936, New York University; M.A. 1938, Columbia University; M.S. 1951, Ph.D. 1953, Yale University

Allen Nussbaum as associate professor of electrical engineering

B.A. 1939, M.A. 1940, Ph.D. 1954, University of Pennsylvania

Marvin G. Pursinger as associate professor of history, University of Minnesota at Morris

B.A. 1946, M.A. 1947, Bowling Green State University; Ph.D. 1961, University of Southern California

Warren W. Roberts as associate professor of clinical psychology training program

B.A. 1948, M.A. 1953, Stanford University; Ph.D. 1956, Yale University

Vincent R. Rogers as associate professor of general education

B.A. 1949, Cornell University; M.S. 1953, State University Teachers College (New Paltz, New York); Ed.D. 1956, Syracuse University

Cecil J. Waddington as associate professor, School of Physics

B.Sc. 1952, Ph.D. 1955, University of Bristol (England)

W. Dixon Ward as associate professor of otolaryngology

B.S. 1944, South Dakota School of Mines and Technology; Ph.D. 1953, Harvard University

Donald B. Wetlaufer as associate professor of physiological chemistry

B.S. 1946, M.S. 1952, Ph.D. 1954, University of Wisconsin

Bob G. Woods as associate professor of general education

B.S. 1940, Northeast Missouri State Teachers College (Kirksville); M.Ed. 1948, University of Missouri; Ph.D. 1950, State University of Iowa

Assistant Professors

Dwight L. Anderson as assistant professor, School of Dentistry and microbiology

B.A. 1957, M.S. 1959, Ph.D. 1961, University of Minnesota

Roger V. Anderson as assistant professor of plant pathology and botany

B.A. 1953, Augsburg College; M.S. 1958, University of Minnesota; Ph.D. 1962, University of Wisconsin

Saul Blumenthal as assistant professor of mechanical engineering

B.M.E. 1958, Ph.D. 1962, Cornell University

W. Keith Bryant as assistant professor of agricultural economics

B.S.A. 1957, Ontario Agricultural College; M.S. 1960, Ph.D. 1963, Michigan State University

Brooks D. Church as assistant professor of microbiology

B.S. 1947, M.S. 1953, Ph.D. 1955, University of Michigan

Kenneth S. Deffeyes as assistant professor of geology and mineralogy

B.S. 1953, Colorado School of Mines; M.S.E. 1956, Ph.D. 1958, Princeton University

Kenneth N. DeYoung as assistant professor of psychology, University of Minnesota at Duluth

B.A. 1956, M.A. 1957, Michigan State University; Ph.D. 1961, University of Minnesota

Wallace F. Doerr as assistant professor and assistant to the dean, School of Business Administration

B.A. 1943, M.A. 1947, Yale University

Samuel D. Evans as assistant professor, West Central School of Agriculture, Morris

B.S. 1955, University of Illinois; M.S. 1960, Ph.D. 1963, Purdue University

Robert O. Fisch as assistant professor of pediatrics

M.D. 1951, University of Budapest

E. Gebhard Fuhrken as assistant professor of mathematics, SLA

1951-57, University of Munster (Germany); Ph.D. 1962, University of California

Eugenijus Gedgaudas as assistant professor of radiology

1941-44, University of Vilnius (Lithuania); 1945-46, Tuebingen University (Germany); M.D. 1948, University of Munich

Margie R. Hanson as assistant professor of physical education for women

B.S. 1943, University of Minnesota; M.S. 1946, University of California

Ernest C. Herrmann as assistant professor of microbiology, Mayo Foundation

B.S. 1950, M.S. 1951, Ph.D. 1953, University of Maryland

- Rollie R. Houchins as assistant professor of special education, College of Education
 B.S. 1951, Northeast Missouri State Teachers College; M.S. 1954, University of Kansas; Ph.D. 1962, Wayne University
- Robert J. Isaacson as assistant professor, School of Dentistry
 B.S. 1954, D.D.S. 1956, M.S.D. 1961, Ph.D. 1962, University of Minnesota
- Fred A. Johnson as assistant professor of social studies, General College
 B.A. 1952, B.S. 1954, M.A. 1958, Ph.D. 1961, University of Minnesota
- Eric Klinger as assistant professor of psychology, University of Minnesota at Morris
 B.A. 1954, Harvard College; Ph.D. 1960, University of Chicago
- Virgil J. Kroeger as assistant professor of sociology, University of Minnesota at Duluth
 B.S. 1940, South Dakota State College; M.A. 1952, Ph.D. 1961, University of Minnesota
- Ralph H. Kurtzman as assistant professor of biology, University of Minnesota at Morris
 B.S. 1955, University of Minnesota; M.S. 1958, Ph.D. 1959, University of Wisconsin
- Mary F. Lamison as assistant professor and state home economics agent, Agricultural Extension
 B.S. 1940, New Mexico State University; B.Ed. 1950, M.A. 1950, University of Washington
- Robert T. Laudon as assistant professor of music
 B.A. 1947, M.A. 1950, University of Minnesota
- Charles S. Levy as assistant professor of English
 B.A. 1953, Hamilton College; Ph.D. 1962, Cornell University
- Harold Markowitz as assistant professor of microbiology, Mayo Foundation
 B.S. 1947, College of the City of New York; M.A. 1952, Ph.D. 1953, Columbia University; M.D. 1958, University of Utah
- John H. Matthews as assistant professor of romance languages
 B.A. 1951, University College of Swansea, University of Wales; Ph.D. 1955, University of Montpellier (France)
- Miles H. Mauney as assistant professor of music
 B.M. 1947, Oberlin Conservatory of Music; M.A. 1961, Teachers College, Columbia University
- Eugenia J. McClure as assistant professor, School of Nursing
 B.S. 1946, Incarnate Word College (San Antonio, Texas); M.S. 1954, University of Colorado
- William A. Milbrath as assistant professor and assistant state leader of 4-H Clubs, Agricultural Extension
 B.S. 1950, M.S.W. 1956, University of Minnesota
- Chester J. Mirocha as assistant professor of plant pathology and botany
 B.S. 1955, Marquette University; Ph.D. 1960, University of California (Davis)
- G. Robert Mowerson as assistant professor of physical education and athletics
 B.S. 1937, M.A. 1945, University of Michigan
- Amos Nannini as assistant professor of mathematics, University of Minnesota at Duluth (served as lecturer, 1958-60)
 Master's degree 1936, University of Pisa (Italy)
- Irvin T. Omtvedt as assistant professor and extension animal husbandman, Agricultural Extension
 B.S. 1957, University of Wisconsin; M.S. 1959, Ph.D. 1961, Oklahoma State University
- Jerome D. Pauker as assistant professor of psychiatry and neurology
 B.A. 1949, Brooklyn College; M.S. 1951, Purdue University; Ph.D. 1957, Washington University (St. Louis)
- Herbert L. Pick, Jr. as assistant professor, Institute of Child Development
 B.A. 1952, Ph.D. 1959, Cornell University

Patricia B. Pond as assistant professor, Library School

B.A. 1952, College of St. Catherine; M.A. 1955, University of Minnesota

Carl H. Poppe as assistant professor, School of Physics

B.A. 1957, DePauw University; M.S. 1959, Ph.D. 1962, University of Wisconsin

Belle A. Shenoi as assistant professor of electrical engineering

B.S. 1951, University of Madras; M.S. 1958, Ph.D. 1962, University of Illinois

Cyrus F. Smythe, Jr., as assistant professor, Industrial Relations Center

B.A. 1951, University of the South (Sewanee, Tennessee); Ph.D. 1961, University of Washington

Steven T. Spees, Jr., as assistant professor of inorganic chemistry

B.S. 1956, Purdue University; Ph.D. 1961, University of Southern California

John E. Stone as assistant professor of geology

B.A. 1953, Ohio Wesleyan University; M.S. 1958, Ph.D. 1960, University of Illinois

Lorraine D. Sundal as assistant professor and director of counseling, University High School

B.S. 1951, M.A. 1957, Ph.D. 1962, University of Minnesota

Harold S. Swofford, Jr., as assistant professor of analytical chemistry

B.A. 1953, Western Washington College (Bellingham); M.S. 1960, University of Illinois

Milton A. Trapold as assistant professor of psychology

B.A. 1958, Yale University; M.A. 1961, Ph.D. 1961, State University of Iowa

Roman F. Warmke as assistant professor and director of economic education, College of Education

B.S. 1951, M.A. 1952, Ph.D. 1960, University of Minnesota

Ronald W. Wendahl as assistant professor of speech and theatre arts

B.S. 1950, M.S. 1955, University of Washington; Ph.D. 1957, State University of Iowa

Frank B. Wilderson, Jr., as assistant professor, College of Education

B.A. 1953, Xavier University of Louisiana; M.S. 1957, Ph.D. 1962, University of Michigan

APPOINTMENTS, 1963-64

Assistant Dean

John G. O'Brien as assistant dean and associate professor, Law School

LL.B. 1931, State University of Iowa

Professors

Robert J. Buehler as professor of statistics, CLA

B.S. 1948, M.S. 1949, Ph.D. 1952, University of Wisconsin

Robert J. Collins as professor of electrical engineering

B.A. 1946, M.S. 1948, University of Michigan; Ph.D. 1953, Purdue University

Arnold N. Enker as professor, Law School

B.A. 1955, Yeshiva College; LL.B. 1958, Harvard Law School

Francois N. Frenkiel as professor of aeronautics and engineering mechanics, and in School of Physics

Diploma in mechanical engineering 1933, diploma in aeronautical engineering 1937, Ph.D. 1946, University of Ghent (Belgium)

David L. Graven as professor, Law School

B.A. 1950, St. Olaf College; LL.B. 1953, University of Minnesota

Lavell M. Henderson as professor and head of biochemistry

B.S. 1939, Utah State University (Logan); M.S. 1941, Ph.D. 1947, University of Wisconsin

Fern May Horn as professor of home economics education

B.S. 1948, Wisconsin State College (Stevens Point); M.S. 1956, Stout State College; Ed.D. 1959, Michigan State University (East Lansing)

- Gopinath Kallianpur as professor of statistics, CLA
 B.A. 1945, M.A. 1946, Madras University; Ph.D. 1951, University of North Carolina
- Dean E. Richardson as professor and chairman of physical education for men, and associate director, School of Physical Education
 M.A. 1946, Ed.D. 1951, Stanford University
- Carl D. Sheppard, Jr., as professor and chairman, Art Department
 B.A. 1937, Amherst College; M.A. 1942, Ph.D. 1947, Harvard University
- Harry F. Williams as professor of Romance Languages
 B.A. 1933, University of Delaware; M.A. 1938, Middlebury College; Ph.D. 1942, University of Michigan
- Donald Z. Woods as professor and associate Dean, Extension Division (served as instructor, assistant professor and associate professor, 1944-56)
 B.A. 1937, University of Iowa; M.A. 1942, Ph.D. 1950, University of Minnesota
- George M. Yamane as professor, School of Dentistry
 B.A. 1946, Haverford College; D.D.S. 1950, Ph.D. 1962, University of Minnesota

Associate Professors

- John F. Alexander as associate professor, physical education for men
 B.S. 1954, M.A. 1955, University of Notre Dame; Ph.D. 1960, Michigan State University
- John E. Anderson as associate professor of mechanical engineering
 B.S. 1949, Iowa State University (Ames); M.S. 1955, University of Minnesota; Ph.D. 1962, Massachusetts Institute of Technology
- Hans W. J. Courant as associate professor, School of Physics
 B.S. 1949, Ph.D. 1954, Massachusetts Institute of Technology
- Ethel L. Curtis as associate professor of education, University of Minnesota at Morris
 B.A. 1937, Iowa State Teachers College (Cedar Falls); M.A. 1942, State University of Iowa; Ph.D. 1955, University of Minnesota
- Gerald R. Firth as associate professor of general education
 B.A. 1952, State University of New York; M.A. 1953, Ed.D. 1959, Teachers College, Columbia University
- John J. Flagler as associate professor, Industrial Relations Center, School of Business Administration
 B.A. 1951, Utica College of Syracuse University; M.S. 1957, Cornell University
- Edwin Fogelman as associate professor of political science
 B.A. 1951, New York University; M.A. 1953, Ph.D. 1956, Princeton University
- Richard P. Halverson as associate professor of electrical engineering
 B.S. 1951, University of North Dakota; M.S. 1954, Ohio State University; Ph.D. 1961, University of Minnesota
- John T. Hanley as associate professor of civil engineering
 B.S. 1947, M.S. 1948, Dartmouth College
- Willard W. Hartup as associate professor, Institute of Child Development
 B.S. 1950, M.A. 1951, Ohio State University; Ed.D. 1955, Harvard University
- John G. Haygreen as associate professor, School of Forestry
 B.S. 1952, Iowa State University (Ames); M.S. 1958, Ph.D. 1961, Michigan State University (East Lansing)
- Thomas R. Hoffmann, as associate professor of business functions and management, School of Business Administration
 B.S. 1955, M.S. 1956, Ph.D. 1959, University of Wisconsin
- Iwao Iwasaki as associate professor, mines experiment station, School of Mines and Metallurgy (served as assistant professor 1957-59)
 1948-50, University of Tokyo; B.S. 1951, M.S. 1953, University of Minnesota; Sc.D. 1957, Massachusetts Institute of Technology

- Charles H. Kraft as associate professor of statistics
B.A. 1948, M.A. 1949, Michigan State University (East Lansing); Ph.D. 1954, University of California
- Edmund S. Olsen, Jr., as associate professor, School of Dentistry
D.D.S. 1942, M.S.D. 1950, University of Minnesota
- John H. Park, Jr., as associate professor of electrical engineering
B.S. 1954, University of Maryland; M.S. 1957, Ph.D. 1960, Johns Hopkins University
- Richard A. Peterson as associate professor, School of Architecture
B.Arch. 1952, University of Michigan; M. City Planning, 1961, Massachusetts Institute of Technology
- Emil Pfender as associate professor of mechanical engineering
Vordiplom 1950, Diplom as physicist 1953, Dr. Ing. 1959, Technical University of Stuttgart
- William R. Schmalstieg as associate professor of Slavic and Oriental Languages
B.A. 1950, University of Minnesota; M.A. 1951, Ph.D. 1956, University of Pennsylvania
- Robert P. Sonkowsky as associate professor of classics
B.A. 1954, Lawrence College; Ph.D. 1958, University of North Carolina
- Harry G. Sperling as clinical associate professor of experimental ophthalmology
B.A. 1944, University of Pennsylvania; M.S. 1946, New School for Social Research; Ph.D. 1953, Columbia University
- Wolfgang F. Taraba as associate professor of German
Ph.D. 1953, Munster University (Germany)

Assistant Professors

- Vernon D. Albertson as assistant professor of electrical engineering
B.S. 1950, North Dakota State University; M.S. 1956, University of Minnesota; Ph.D. 1962, University of Wisconsin
- William R. Andersen as assistant professor of horticultural science
B.S. 1956, M.S. 1958, Utah State University; Ph.D. 1963, University of California (Davis)
- Marilyne R. Backlund as assistant professor, School of Nursing
B.S. 1957, University of Minnesota; M.S. 1960, University of Colorado
- Gordon S. Beavers as assistant professor of aeronautics and engineering mechanics
B.A. 1959, Ph.D. 1963, St. Catharine's College of Cambridge University; M.S. 1960, Harvard University
- Francis J. Boyer as assistant professor of music education and music
B.A. 1935, M.A. 1953, Occidental College
- William E. Bradley as assistant professor of psychiatry-neurology
Mech. Engr. 1948, Stevens Institute of Technology; B.M. 1954, University of Melbourne; M.D. 1957, University of Minnesota
- Glenn L. Brudvig as assistant professor and supervisor of departmental libraries
B.S. 1954, M.A. 1956, University of North Dakota; M.A. library science 1962, University of Minnesota
- Theophilos Cacoulios as assistant professor of statistics, CLA
Diploma in Mathematics 1954, Athens University (Greece); M.A. 1960, Ph.D. 1962, Columbia University
- Nelson A. Cavazos as assistant professor in modern languages, Division of Humanities, University of Minnesota at Morris
B.A. 1947, Baylor University; M.A. 1949, University of Tennessee
- Yu-min Chou as assistant professor of economics, University of Minnesota at Morris
B.A. 1954, M.A. 1955, Ph.D. 1960, University of Illinois

- Donald E. Davis as assistant professor of general education
B.A. 1950, Mount Union College; M.Ed. 1957, Kent State University; Ed.D. 1951, Teachers College of Columbia University
- Howard T. Davis as assistant professor of chemical engineering
B.S. 1959, Furman University (Greenville, South Carolina); Ph.D. 1962, University of Chicago
- Harry Dederling as assistant professor of evening and special classes, General Extension Division
B.S. 1948, Wayne University; M.A. 1960, University of Nebraska
- Orval T. Driggs, Jr. as assistant professor of history, University of Minnesota at Morris
B.A. 1943, M.A. 1947, University of Arkansas; Ph.D. 1950, University of Pennsylvania
- Bruce E. Dunn as assistant professor of psychology, University of Minnesota at Morris
B.S. 1954, Northwestern University; M.S. 1957, Ph.D. 1960, University of Wisconsin
- Rakel L. Erickson as assistant professor of elementary education, University of Minnesota at Duluth
B.S. 1940, Moorhead State College; M.Ed. 1955, Wayne State University
- Marion R. Fedde as assistant professor of veterinary anatomy
B.S. 1957, Kansas State College; M.S. 1959, Ph.D. 1963, University of Minnesota
- Siegfried Feller as assistant professor and chief acquisitions librarian
B.A. 1950, M.A. 1951, University of Michigan; M.S. 1960, University of Illinois Library School
- Avrom H. Fleishman as assistant professor of English
B.A. 1954, Columbia College; M.A. 1956, Ph.D. 1963, Johns Hopkins University
- Walter M. Gerson as assistant professor of sociology
B.A. 1957, M.A. 1958, Montana State University; Ph.D. 1963, University of Washington
- John C. Gray as assistant professor of accounting, School of Business Administration
B.B.A. 1949, M.B.A. 1958, University of Michigan; Ph.D. 1963, Ohio State University
- Youdhishthir P. Gupta as assistant professor of metallurgy
B.S. 1953, M.S. 1955, Hindu College, Delhi University; D.I.I.Sc. 1957, India Institute of Science (Bangalore); Ph.D. 1963, Massachusetts Institute of Technology
- Donald K. Harriss as assistant professor of chemistry, University of Minnesota at Duluth
B.A. 1959, Southern Illinois University; Ph.D. 1963, Northwestern University
- John C. Haugland as assistant professor, Graduate School
B.S. 1954, Wisconsin State College (Superior); M.A. 1958, Ph.D. 1961, University of Minnesota
- Alan G. Hunter as assistant professor of dairy husbandry
B.S. 1955, M.S. 1958, University of Rhode Island; Ph.D. 1963, Michigan State University (East Lansing)
- Thomas C. Jegla as assistant professor of zoology, University of Minnesota at Morris
B.S. 1958, Michigan State University (East Lansing); M.S. 1960, Ph.D. 1963, University of Illinois
- Howard G. Johnshoy as assistant to the dean and assistant professor, International Programs
B.A. 1940, Concordia College; M.A. 1947, Ed.D. 1951, Columbia University
- Donald O. Johnson as assistant professor of history, University of Minnesota at Morris
B.A. 1952, University of Minnesota; M.A. 1957, Ph.D. 1960, Columbia University
- Daniel D. Joseph as assistant professor of aeronautics and engineering mechanics
B.S. 1959, M.S. 1960, Ph.D. 1963, Illinois Institute of Technology; M.A. 1950, University of Chicago

- Jaquib N. Karkar as assistant professor of social studies, General College
B.A. 1949, M.A. 1950, University of California
- Ronald T. Lambert as assistant professor and director, Elementary School
B.S. 1950, M.A. 1956, Ph.D. 1961, University of Minnesota
- John D. McRae as assistant professor, College of Pharmacy
B.S. 1950, Montana State University
- Shirley A. Munger as assistant professor of music, University of Minnesota at Duluth
B.A. 1946, M.A. 1951, University of Washington; D.Musical Arts 1963, University of Southern California
- Donald E. Otterby as assistant professor of dairy husbandry
B.S. 1954, M.S. 1958, South Dakota State College; Ph.D. 1963, North Carolina State College
- Oliver S. Owen as assistant professor of biological science, General College
B.A. 1946, M.A. 1947, University of Wisconsin; Ph.D. 1950, Cornell University
- Walter E. Parham as assistant professor, Minnesota Geological Survey
B.S. 1956, M.S. 1958, Ph.D. 1962, University of Illinois
- Srinivas B. Prasad as assistant professor of economics, University of Minnesota at Morris
B.A. 1952, M.A. 1953, University of Mysore (India); M.B.A. 1958, Marquette University; Ph.D. 1963, University of Wisconsin
- James L. Scoggins as assistant professor of English
B.A. 1958, University of Chattanooga; M.A. 1959, Johns Hopkins University; Ph.D. 1963, University of Illinois
- Matthew Stark as assistant professor, Student Activities Bureau
B.A. 1951, New York University; B.S. Educ. 1951, Ohio University (Athens); M.A. 1959, University of Minnesota; Ph.D. 1963, Western Reserve University
- Irving Tallman as assistant professor, School of Home Economics and Sociology
A.B. 1948, University of California; M.S.W. 1950, Wayne University; Ph.D. 1963, Stanford University
- Akira E. Takemori as assistant professor of pharmacology
A.B. 1951, M.S. 1953, University of California; Ph.D. 1958, University of Wisconsin
- Vlad I. Thomas as assistant professor of English, University of Minnesota at Morris
B.S. 1951, M.A. 1953, Ph.D. 1963, University of Wisconsin
- Daniel E. Waite as assistant professor of dental surgery, Mayo Foundation
D.D.S. 1953, M.S. 1955, State University of Iowa
- Elaine C. Walster as assistant professor of psychology, Student Activities Bureau
B.A. 1959, University of Michigan; Ph.D. 1963, Stanford University
- David M. Wark as assistant professor, Student Counseling Bureau
B.A. 1956, Pomona College; Ph.D. 1961, University of Minnesota
- Justin J. Wolfson as assistant professor of radiology
B.A. 1943, University of Omaha; M.D. 1945, University of Nebraska
- Glenn L. Wood as assistant professor of business functions and management, School of Business Administration
B.S. 1960, Arizona State University; Ph.D. 1963, University of Pennsylvania

PROMOTIONS AND TRANSFERS, 1962-63

Assistant Dean and Assistant Professor to Assistant Dean and Associate Professor

Stephen B. Scallen (Law School)

Professor to Professor and Director

Eloise M. Jaeger (Physical Education for Women)

Associate Professor to Professor

Richard Behrens (agronomy and plant genetics)
 John Berryman (humanities, Interdisciplinary Programs)
 J. Morris Blair (School of Physics)
 Raymond O. Collier (educational psychology)
 Ormond S. Culp (Mayo Foundation, urology)
 William H. Dearing (Mayo Foundation, medicine)
 George A. Donohue (Agricultural Extension, rural sociologist)
 Marvin D. Dunnette (psychology)
 Deward O. Ferris (Mayo Foundation, clinical surgery)
 Frank W. Forbes (Agricultural Extension, personnel and training)
 George Freier (School of Physics)
 Eugene D. Grim (physiology)
 Paul S. Hagen (medicine)
 John W. Hall (SLA, botany)
 James M. Henderson (School of Business Administration, economics)
 Robert G. Hinckley (University Health Service, mental hygienist)
 Pershing B. Hofslund (University of Minnesota at Duluth, biology)
 Amy J. Holmblade (home economics education)
 Cyril J. Hoyt (educational psychology)
 Raymond J. Jackman (Mayo Foundation, proctology)
 Alfred G. Karlson (Mayo Foundation, comparative pathology)
 G. Gordon Kingsley (General College, counseling)
 Samuel Kirkwood (agricultural biochemistry)
 William Krivit (pediatrics)
 Walter F. Kvale (Mayo Foundation, medicine)
 Joseph Kwiat (humanities, Interdisciplinary Programs)
 David L. LaBerge (psychology)
 Frank M. Lassman (audiology and speech pathology)
 Elmer W. Learn (agricultural economics)
 Robert J. Levy (Law School)
 Ellis Livingston (University of Minnesota at Duluth, history)
 John A. Lofgren (Agricultural Extension, entomologist)
 George B. Logan (Mayo Foundation, pediatrics)
 Jack C. Merwin (Student Counseling Bureau, Assistant Director)
 Thomas Morley (SLA, botany)
 Carl G. Morlock (Mayo Foundation, clinical medicine)
 James C. Nichol (University of Minnesota at Duluth, chemistry)
 Wayland E. Noland (organic chemistry)
 Anne W. Oren (School of Social Work)
 Orville C. Peterson (Municipal Reference Bureau)
 Stephen Prager (physical chemistry)
 Jacob Schmookler (School of Business Administration, economics)
 John T. Shepherd (Mayo Foundation, physiology)
 Leon Singer (School of Dentistry)
 Milton Sobel (SLA, statistics)
 Francis A. Spurrell (veterinary surgery and radiology)
 J. Minott Stickney (Mayo Foundation, clinical medicine)
 Aram Vartanian (Romance Languages)
 H. Herman Young (Mayo Foundation, clinical orthopedic surgery)
 Bernard E. Youngquist (Northwest School of Agriculture, Crookston)
 Leslie Zieve (medicine)

Clinical Associate Professor to Clinical Professor

John F. Briggs (medicine)
 Tague C. Chisholm (surgery)
 Samuel B. Feinberg (radiology)
 Ejvind P. Fenger (medicine)

Arthur C. Kerkhof (medicine)
Malvin J. Nydahl (surgery)

Clinical Assistant Professor to Professor

Vera B. Eiden (psychiatry-neurology)

Assistant Professor to Associate Professor

Alfred Aeppli (Institute of Technology, mathematics)
Donald G. Aronson (Institute of Technology, mathematics)
Edward Becker (Agricultural Extension, district supervisor)
Hyman Berman (history)
Morgan Blum (humanities, Interdisciplinary Programs)
Robert Bridges (laboratory medicine, pediatrics, and clinical microbiology)
Ray E. Burger (poultry science)
Donald C. Campbell (Mayo Foundation, clinical medicine)
Hadden M. Carryer (Mayo Foundation, clinical medicine)
Jesse H. Choper (Law School)
Elizabeth L. Cless (Extension Division, Liberal Arts Program)
Beulah E. Compton (School of Social Work)
Guy W. Daugherty (Mayo Foundation, clinical medicine)
Gordon B. Davis (School of Business Administration, accounting)
Douglas M. Dearden (General College, biological science)
Kenneth D. Devine (Mayo Foundation, plastic surgery)
Margaret D. Doyle (School of Home Economics)
Joseph E. Duncan (University of Minnesota at Duluth, English)
Richard J. Foster (SLA, English)
Caroline M. Fredrickson (Agricultural Extension, home economics)
Joseph E. Geraci (Mayo Foundation, medicine)
Ralph E. Giesey (history)
Robert L. Glass (agricultural biochemistry)
Ian D. Gregory (psychiatry)
Moy F. Gum (University of Minnesota at Duluth, student counseling)
Olav H. Hallberg (Mayo Foundation, clinical otolaryngology and rhinology)
H. Frederick Helmholtz, Jr. (Mayo Foundation, physiology)
Frank D. Hirschbach (German)
John R. Hodgson (Mayo Foundation, radiology)
Albert B. Hood (Student Counseling Bureau)
R. Kay Humphrey (Center for Continuation Study, program director)
Walter H. Johnson, Jr. (School of Physics)
Wendell Josal (University Theater)
Bjorn Karlsen (College of Education, special education)
Leslie A. King (General College, psychological studies, counseling)
Giles A. Koelsche (Mayo Foundation, clinical medicine)
Carl D. Koutsky (psychiatry)
Florian I. Lauer (horticulture)
Lewis D. Levang (University of Minnesota at Duluth, English)
Richard Lillehei (general surgery)
Bernard W. Lindgren (Institute of Technology, mathematics)
John A. Logothetis (psychiatry-neurology)
Helmuth Mangold (Hormel Institute)
Donald R. Mathieson (Mayo Foundation, clinical pathology)
James H. Matthews (anesthesiology)
Stephen D. Mills (Mayo Foundation, clinical pediatrics)
Shirley G. Moore (Institute of Child Development, nursery school)
Murray J. Murray (internal medicine)
Norman C. Nagle (School of Architecture)
Diedrich Reimer (Northwest School of Agriculture, Crookston)
Edward G. Rippie (College of Pharmacy)
William G. Sauer (Mayo Foundation, medicine)
L. Edward Scriven II (chemical engineering)

Reuben Silver (clinical psychology)
 Norman J. Simler (School of Business Administration, economics)
 Richard A. Skok (School of Forestry)
 Francis I. Sorauf, Jr. (political science)
 Anna L. Stensland (University of Minnesota at Duluth, English)
 Laurentius O. Underdahl (Mayo Foundation, clinical medicine)
 Forrest L. Vance (Student Counseling Bureau)
 James H. Werntz, Jr. (School of Physics)
 Kenneth T. Whitby (mechanical engineering)
 C. Paul Winchell (internal medicine)
 Richard K. Winkelmann (Mayo Foundation, dermatology and syphilology)
 Eugene S. Wright (rhetoric)
 Robert E. Yoss (Mayo Foundation, neurology)
 Tibor Zoltai (geology-mineralogy)

*Physician, University Health Service and Assistant Professor to Physician and
 Clinical Associate Professor*

William R. Fifer (medicine)

Clinical Assistant Professor to Clinical Associate Professor

Irving Bernstein (psychiatry-neurology and obstetrics and gynecology)
 Sumner S. Cohen (medicine)
 Philip Feinberg (psychiatry-neurology)
 Milton M. Hurwitz (medicine)
 Walter Indeck (surgery)
 Sidney K. Shapiro (psychiatry-neurology)
 David J. Vail (psychiatry-neurology)
 Asher A. White (medicine)

Research Associate to Associate Professor

Manfred J. Meier (psychiatry-neurology and surgery)

*Lecturer and Assistant to the Director to Associate Professor and Assistant
 Director*

M. Isabel Harris (School of Nursing)

Lecturer to Associate Professor

Allyn G. Bridge (School of Public Health)
 E. Bruce Lee (Institute of Technology, electrical engineering)

Instructor to Assistant Professor

Lee Adey (University Theater)
 Arnold Adicoff (medicine)
 Emil T. Andersen (horticulture)
 James L. App (Agricultural Extension)
 Ernest E. Bantari (plant pathology and botany)
 Richard M. Barker (Civil Engineering)
 Kenneth G. Berge (Mayo Foundation, medicine)
 Robert F. Berkhofer, Jr. (history)
 Jerome T. Bieter (hospital administration)
 Edward C. Defoe, Jr. (Comprehensive Clinic Program)
 David E. Donald (Mayo Foundation, physiology)
 W. Richard Dukelow (North Central School of Agriculture, Grand Rapids)
 Robert Dykstra (General Education)
 Marian L. Eliason (physical medicine and rehabilitation)
 Virginia Fredricks (speech and theatre arts)
 William H. Flanigan (political science)

Jerome E. Gates (General College, general arts)
 John R. Gordon (Medical Sciences, anesthesiology)
 Ira M. Gourley (veterinary surgery and radiology)
 Patricia M. Hanauer (laboratory medicine)
 Lowell L. Henderson (Mayo Foundation, medicine)
 Kenneth A. Huizenga (Mayo Foundation, medicine)
 Benton Jamison (SLA, mathematics)
 John W. Jenne (medicine)
 Edward Jimenez-pabon (psychiatry-neurology)
 John L. Juergens (Mayo Foundation, medicine)
 Stephen E. Keeler (General College, literature and writing)
 Jaako Kihlberg (physiological hygiene)
 Thomas J. Kiresuk (psychiatry-neurology)
 Raymond J. Lammers (Extension Division, drama advisory service)
 Jooinn Lee (University of Minnesota at Morris, social science)
 Muriel I. Lehman (University of Minnesota at Duluth, home economics)
 Richard R. Martin (Speech and Hearing Clinic)
 Dwight C. McGoon (Mayo Foundation, surgery)
 Robert G. Michaels (hospital administration)
 Karl F. Morrison (history)
 Theodore M. Nelson (Southern School of Agriculture, Waseca)
 Barbara B. North (home economics)
 Victor Perman (veterinary pathology and parasitology)
 John W. Reynolds (pediatrics)
 E. Douglas Rooke (Mayo Foundation, neurology)
 Dorothy Rundorff (Romance Languages)
 Joseph W. St. Geme (pediatrics)
 Rudolph I. Schauer (University of Minnesota at Duluth, art)
 Philip Siegelman (humanities, Interdisciplinary Programs)
 Kenneth R. Skjegstad (SLA, botany)
 John A. Spittel, Jr. (Mayo Foundation, medicine)
 R. Edith Stedman (Dean of Students, educational psychology)
 Gunnar B. Stickler (Mayo Foundation, pediatrics)
 C. Roger Sullivan (Mayo Foundation, orthopedic surgery)
 Edward Sulzer (clinical psychology)
 John H. Thompson (Mayo Foundation, clinical pathology)
 Walter K. Thorsell (mortuary science)
 Phillip J. Tichenor (Agricultural Extension, information specialist)
 William H. Weidman (Mayo Foundation, pediatrics)
 John S. Welch (Mayo Foundation, surgery)

Clinical Instructor to Clinical Assistant Professor

Robert J. Fink (ophthalmology)
 Harry S. Friedman (ophthalmology)
 John K. Grotting (surgery)
 John A. McNeill (ophthalmology)
 Thomas W. O'Kane (ophthalmology)
 Harry L. Plotke (ophthalmology)
 Robert E. Rocknem (ophthalmology)
 Irving Shapiro (ophthalmology)
 Jacob H. Strickler (surgery)
 William B. Stromme (obstetrics and gynecology)

Research Associate to Assistant Professor

Russell K. Hobbie (School of Physics)
 Lloyd K. Sines (psychiatry-neurology)
 Edgar R. F. Winter (mechanical engineering)

Lecturer to Assistant Professor

Heinrich Engel (School of Architecture)
 John C. Hause (School of Business Administration, economics)

PROMOTIONS AND TRANSFERS, 1963-64

Professor and Head, Electrical Engineering to Vice President of Academic Administration and Professor

William G. Shepherd

Associate Professor and Extension Economist, Agricultural Extension to Assistant to the President and Associate Professor

Luther J. Pickrel

Professor and Head of Agricultural Economics to Dean of the Institute of Agriculture and Professor

Sherwood O. Berg (agricultural economics)

Professor and Head of Agronomy and Plant Genetics to Dean of International Programs and Professor

Will M. Myers (plant genetics)

Professor and Director University High School to Dean and Professor

Robert J. Keller (College of Education)

Dean and Professor Summer Session and Extension Division to Dean and Professor College of Liberal Arts

E. William Ziebarth

Assistant to the President and Associate Professor School of Journalism to Dean of Summer Session and Extension Division and Professor

Willard L. Thompson

Professor and Chairman of Economics to Associate Dean of Social Sciences and Professor and Chairman of Economics

John G. Turnbull

Professor and Assistant Director of Physical Education and Athletics for Men to Director and Professor of School of Physical Education

Richard J. Donnelly

Business Manager of Athletics and Freshman Hockey Coach to Director and Associate Professor of Intercollegiate Athletics

Marshall W. Ryman

Assistant Professor and Extension Economist of Farm Management, Agricultural Extension to Assistant to the Dean and Assistant Professor

James L. App (Institute of Agriculture)

Associate Professor at Northwest School and Station to Associate Professor and Superintendent of Southern School of Agriculture and Experiment Station

Edward C. Frederick

Professor to Professor and Assistant Director

Donald P. Duncan (School of Forestry)

Associate Professor to Professor

Rutherford Aris (chemical engineering)
 Raymond L. Arthaud (Agricultural Extension)
 Woodrow J. Aunan (animal husbandry)
 Charles E. Bowers (civil engineering and hydraulics)
 S. Gaylen Bradley (microbiology)
 Joe R. Brown (Mayo Foundation, neurology)
 Stanley Bruckenstein (analytical chemistry)
 Elizabeth Carlson (mathematics)
 Clarke A. Chambers (history)
 James R. Curtin (elementary education)
 Reynold P. Dahl (agricultural economics)
 John S. Dahler (chemical engineering)
 John D. Donker (dairy husbandry)
 Eleanor S. Fenton (General Extension Division, scholastic and counseling services)
 Darrell F. Fienup (agricultural economics)
 Immanuel C. Fischer (General Extension Division, evening and special classes)
 Edward W. Francel (School of Social Work)
 David W. French (plant pathology and physiology)
 Steven A. Gal (School of Mathematics)
 Joseph G. Gall (zoology)
 Earl E. Gambill (Mayo Foundation, medicine)
 Stephen G. Gasiorowicz (School of Physics)
 Leon W. Green (School of Mathematics)
 Ruth E. Green (University of Minnesota at Duluth, laboratory school)
 Laurence F. Greene (Mayo Foundation, urology)
 Malcolm M. Hargraves (Mayo Foundation, medicine)
 Mykola H. Haydak (entomology, fisheries, and wildlife)
 John W. Henderson (Mayo Foundation, medicine)
 Vivian H. Hewer (Student Counseling Bureau, psychology)
 William F. Hueg, Jr. (Agricultural Experiment Station)
 Thomas B. Irving (Slavic and Oriental languages)
 Arthur L. Johnson (sociology)
 Stanley B. Kegler (University High School, language arts)
 Thor Kommedahl (plant pathology and physiology)
 Blanchard O. Krogstad (University of Minnesota at Duluth, biology)
 Edward Leete (organic chemistry)
 Leah M. Lewis (Agricultural Extension Division, interior design)
 Jerome Liebling (art)
 Reuel I. Lund (accounting)
 James F. Maclear (University of Minnesota at Duluth, social studies)
 Frank T. Maher (Mayo Foundation, pharmacology)
 Mary Malcolm (music)
 Homer T. Mantis (School of Physics)
 Eugene C. Mather (geography)
 George S. Michaelsen (University Health Service and School of Public Health)
 John S. Myers (School of Architecture)
 Harley J. Otto (Agricultural Extension)
 William T. Peria (electrical engineering)
 Joseph H. Pratt (Mayo Foundation, surgery)
 Lewis J. Rickert (University of Minnesota at Duluth, physical education)
 Jay Y. Roshal (University of Minnesota at Morris, biology)
 Harlund G. Routhe (Agricultural Extension)
 Edwin L. Schmidt (microbiology)
 Robert L. Scott (speech and theatre arts)
 Thomas H. Seldon (Mayo Foundation, anesthesiology)

Patarasp R. Sethna (aeronautics and engineering mechanics)
 Robert C. Slater (mortuary science)
 Grover C. Stephens (zoology)
 Harold W. Stevenson (business functions and management)
 Gregory P. Stone (sociology)
 Henry M. Tsuchiya (chemical engineering)
 John W. Wakely (School of Dentistry)
 Franklin G. Wallace (zoology)
 Edith West (University High School, social studies)

Clinical Associate Professor to Clinical Professor

Reuben Berman (medicine)
 Blanchard K. Braum (School of Dentistry)
 Zondal R. Miller (psychiatry-neurology)

Research Associate to Professor

Robert F. Holt, Sr. (soil science)

Assistant Professor to Associate Professor

Kurt Amplatz (diagnostic roentgenology)
 Emil T. Andersen (horticultural science)
 Milton W. Anderson (Mayo Foundation, medicine)
 Dominick J. Argento (music)
 Charles H. Backstrom (political science)
 Ayers L. Bagley (history and philosophy of education)
 Robert C. Bahn (Mayo Foundation, pathology)
 Edward A. Banner (Mayo Foundation, obstetrics and gynecology)
 Lloyd G. Bartholomew (Mayo Foundation, medicine)
 Earl S. Bergerud (Agricultural Extension)
 Donald H. Blocher (educational psychology)
 Marion A. Brooks (entomology, fisheries, and wildlife)
 Russell W. Burris (General College, psychological studies)
 David P. Campbell (Student Counseling Bureau)
 Eugene R. Chenette (electrical engineering)
 Donald S. Childs (Mayo Foundation, radiology)
 Norman A. Christensen (Mayo Foundation, medicine)
 John I. Coe (pathology)
 Harold P. Cohen (neurology)
 Miriam Cohn (School of Social Work)
 Robert M. Collins (Southern School of Agriculture, Waseca)
 Lawrence E. Conroy (inorganic chemistry)
 Talbert Cooper (Mayo Foundation, medicine)
 John A. Crane (School of Social Work)
 William J. A. Culmer (agricultural engineering)
 James H. DeWeerd (Mayo Foundation, urology)
 Jan D. Duker (College of Education)
 Erwin Engeler (mathematics)
 Edward Flaccus (University of Minnesota at Duluth, biology)
 Arnold G. Fredrickson (chemical engineering)
 Orazio Fumagalli (University of Minnesota at Duluth, art)
 Harry Furstenberg (mathematics)
 Robert P. Gage (Mayo Foundation, biometry and medical statistics)
 Clifford F. Gastineau (Mayo Foundation, medicine)
 Donald A. Geffen (School of Physics)
 James L. Gibbs, Jr. (anthropology)
 Eleanor G. Gifford (Agricultural Extension)
 Harold Gilbertstadt (psychiatry-neurology)
 Norman P. Goldstein (Mayo Foundation, neurology)
 John B. Gross (Mayo Foundation, medicine)
 Anna T. Hampel (School of Dentistry)

C. Gustav Hard (Agricultural Extension)
 Evelyn D. Harne (Agricultural Extension)
 Forrest J. Harris (General College, social studies)
 Lloyd E. Harris (Mayo Foundation, pediatrics)
 Paul R. Hasbargen (Agricultural Extension)
 Alvin B. Hayles (Mayo Foundation, pediatrics)
 John R. Hill (Mayo Foundation, proctology)
 Colin B. Holman (Mayo Foundation, radiology)
 James E. Holte (electrical engineering)
 John Q. Imholte (University of Minnesota at Morris, history)
 Frank D. Irving (School of Forestry)
 Robert J. Isaacson (School of Dentistry)
 Jay R. Jensen (Speech and Hearing Clinic, speech)
 Clyde E. Johnson (University of Minnesota at Morris, music)
 Edna K. Jordahl (Agricultural Extension)
 Thomas E. Keys (Mayo Foundation, history of medicine)
 Eric Klinger (University of Minnesota at Morris, psychology)
 Anne O. Krueger (economics)
 Sanford Lipsky (physical chemistry)
 Walter Littman (School of Mathematics)
 Fred E. Lukermann, Jr. (geography)
 Thomas S. Lundgren (aeronautics and engineering mechanics)
 Jeanne T. Lupton (General College, social studies)
 Osgood T. Magnuson (Agricultural Extension)
 William J. Martin (Mayo Foundation, medicine)
 R. Paul Marvin (agricultural education)
 Homer E. Mason (philosophy)
 Charles A. McCarthy (mathematics)
 C. Alden Mead (physical chemistry)
 Verna A. Mikesh (Agricultural Extension)
 Cyril M. Milbrath (University of Minnesota at Duluth, secondary education)
 Kenneth P. Miller (Southern School of Agriculture, Waseca)
 Chester L. Miracle (mathematics)
 Paul H. Monson (University of Minnesota at Duluth, biology)
 Albert J. Moscowitz (physical chemistry)
 Marion Nelson (Scandinavian)
 Howard J. Newell (Agricultural Extension)
 Patrick A. Ongley (Mayo Foundation, pediatrics)
 John Overend (physical chemistry)
 Neville P. Pearson (secondary education)
 Gertrude L. Pease (Mayo Foundation, pathology)
 Gustavus A. Peters (Mayo Foundation, medicine)
 Frederick W. Peterson (University of Minnesota at Morris, art)
 William G. Phinney (geology and geophysics)
 Herbert L. Pick, Jr. (Institute of Child Development)
 Richard B. Raile (pediatrics)
 Clement Ramsland (Interdisciplinary Programs, humanities)
 Palmer Rogers (microbiology)
 Britton K. Ruebush (Institute of Child Development)
 Joseph V. Scaletti (animal husbandry)
 George L. Shapiro (speech and theatre arts)
 Gerald M. Siegel (Speech and Hearing Clinic)
 Robert E. Sloan (geology and geophysics)
 John M. Slye (mathematics)
 Dorothy D. Smith (University of Minnesota at Duluth, elementary education)
 Marvin E. Smith (Agricultural Extension)
 Ralph E. Smith (West Central School of Agriculture, Morris)
 Chieh-Shyang Song (civil engineering)
 Fredric R. Steinhauer (General College, social studies)
 William A. Stockdale (General College, literature and writing)
 Charles F. Stroebel (Mayo Foundation, medicine)
 Theodore W. Sudia (plant pathology and physiology)

William H. J. Summerskill (Mayo Foundation, medicine)
 Larry C. Thompson (University of Minnesota at Duluth, chemistry)
 R. Stuart Tobias (inorganic chemistry)
 John F. Van Pilsum (biochemistry)
 Richard W. von Korff (biochemistry)
 Philip G. Walther (University of Minnesota at Duluth, psychology)
 Conrad J. Weiser (horticultural science)
 Gerhard H. Weiss (German)
 John C. Wright (Institute of Child Development)
 Charles W. Young (dairy husbandry)

Clinical Assistant Professor to Clinical Associate Professor

Alex Barno (obstetrics and gynecology)
 Samuel S. Beirstein (urology)
 Robert P. Bush (psychiatry-neurology)
 Howard R. Davis (psychiatry-neurology)
 Isadore Fisher (dermatology)
 Donald W. Freeman (obstetrics and gynecology)
 Mark C. L. Hanson (medicine)
 Lee C. Hermann (School of Dentistry)
 Miles B. Hirschev (School of Dentistry)
 William H. Hollinshead (medicine)
 Mancel T. Mitchell (obstetrics and gynecology)
 Harold G. Ravits (dermatology)
 Karl E. Sandt (ophthalmology)
 Angus R. Stoesz (School of Dentistry)
 Lowell W. Weber (medicine)

Instructor to Associate Professor

Patrick J. Kelly (Mayo Foundation, orthopedic surgery)

Visiting Lecturer to Associate Professor

Peter Busa (art)

Instructor to Assistant Professor

Richard A. Abell (School of Home Economics)
 Maxwell Alvord (CLA, Upper Division)
 Earl R. Andrews (University of Minnesota at Duluth, industrial education)
 Hillier L. Baker, Jr. (Mayo Foundation, radiology)
 Donald M. Barnes (veterinary diagnostic laboratories)
 Arnold L. Brown, Jr. (Mayo Foundation, pathology)
 Sylvan D. Burgstahler (University of Minnesota at Duluth, mathematics and engineering)
 Richard W. Burkey (University of Minnesota at Morris, physics)
 William F. Cates (veterinary obstetrics and gynecology)
 Nancy L. Cook (School of Nursing)
 Harry J. Davis (University of Minnesota at Duluth, English)
 Alfred Doscherholmen (medicine)
 Milton G. Ettinger (neurology)
 John F. Fairbairn (Mayo Foundation, medicine)
 George C. Flora (psychiatry-neurology)
 Floyd K. Garetz (psychiatry)
 Mildred R. Gausman (University of Minnesota at Morris, mathematics)
 Dorothy P. Geis (School of Nursing)
 Theodor B. Grage (surgery)
 Paul A. Green (Mayo Foundation, medicine)
 James C. Gremmels (University of Minnesota at Morris, English)
 Griselda F. Hanlon (veterinary surgery and radiology)
 Charles C. Hanna (University of Minnesota at Morris, admissions)

Edgar G. Harrison (Mayo Foundation, pathology)
 John B. Heald (University of Minnesota at Morris, humanities)
 John F. Helling (University of Minnesota at Duluth, secondary education)
 John A. Higgins (Mayo Foundation, medicine)
 James C. Hunt (Mayo Foundation, medicine)
 Donald W. Johnson (veterinary medicine and clinics)
 Owings W. Kincaid (Mayo Foundation, radiology)
 Thomas J. Kirby, Jr. (Mayo Foundation, ophthalmology)
 Alex Kurak (General College, literature and writing)
 Clayton R. Lagerquist (University Health Service)
 Leonard Langer (diagnostic roentgenology)
 Van S. Lawrence (anesthesiology)
 Edward M. Litin (Mayo Foundation, psychiatry)
 Ross H. Miller (Mayo Foundation, psychiatry)
 Eugene P. Milstone (University of Minnesota at Morris, sociology)
 Charles G. Moertel (Mayo Foundation, medicine)
 Georg D. Molnar (Mayo Foundation, medicine)
 James Moriarty (neurology)
 J. William Mudge (Agricultural Extension)
 Robert Mullin (horticultural science)
 Douglas A. Nelson (clinical laboratories, laboratory medicine)
 N. Ole Nielsen (veterinary pathology and parasitology)
 Roy W. Northey, Jr. (University of Minnesota at Duluth, industrial education)
 Lowell F. Peterson (Mayo Foundation, orthopedic surgery)
 Richard J. Reitemeier (Mayo Foundation, medicine)
 Paul W. Scanlon (Mayo Foundation, radiology)
 Mabel D. Schauland (University of Minnesota at Duluth, Laboratory School)
 Alexander Schirger (Mayo Foundation, medicine)
 Thomas M. Scott (political science)
 Helen Skowlund (physical therapy)
 Arnold K. Solstad (agricultural engineering)
 Donald R. Stieper (psychiatry-neurology)
 James E. Stochl (Elementary Education)
 Harlan R. Stoehr (information and agricultural journalism)
 Welby N. Tauxe (Mayo Foundation, pathology)
 Edmond Yunis (blood bank, laboratory medicine)
 Jorge J. Yunis (laboratory medicine)

Clinical Instructor to Clinical Assistant Professor

Russell W. Bagley (anesthesiology)
 David R. Bernard (School of Dentistry)
 Dennis J. Brandstetter (School of Dentistry)
 Kenneth J. Buechele (School of Dentistry)
 Robert S. Clark (psychiatry-neurology)
 John F. Erickson (School of Dentistry)
 Joseph L. Garten (ophthalmology)
 Robert R. Hoover (School of Dentistry)
 J. Albert Jackson (anesthesiology)
 Douglas L. Johnson (ophthalmology)
 Irvine M. Karon (dermatology)
 Cory H. Kruckenberg (School of Dentistry)
 Richard O. Leavenworth (ophthalmology)
 Winston R. Lindberg (ophthalmology)
 Edward J. Richardson (urology)
 Marguerite Schwyzer (medicine)
 Edward L. Segal (laboratory medicine)
 Martin A. Segal (laboratory medicine)
 Robert C. Stoltz (psychiatry-neurology)
 Francis B. Tiffany (medicine)
 William M. Trygstad (School of Dentistry)
 Frank A. Ubel, Jr. (medicine)

Marion R. White (School of Dentistry)
Hugo M. Wolf (School of Dentistry)

Instructor to Clinical Assistant Professor

Carroll N. Hess (radiology)

Research Associate to Assistant Professor

Raymond R. Allmaras (soil science)
William C. Burrows (soil science)
Charles E. Clapp, Jr. (soil science)
Raymond J. Kunze (soil science)

Lecturer to Assistant Professor

Wassilij Alexeev (Slavic and Oriental Languages)
Martin W. Duffy (Industrial Relations Center)
Walter K. Johnson (civil engineering)
John D. Photiadis (sociology)
Charles R. Purdy (School of Business Administration, accounting)
Joseph S. Smolen (Industrial Relations Center)
Raymond E. Willis (School of Business Administration, quantitative analysis)

Visiting Lecturer to Assistant Professor

Norman W. Canedy (art)

LEAVES OF ABSENCE, 1962-63

- Paul Andersen, professor of civil engineering, without salary for fall quarter of 1962-63, to lecture at Bengal Engineering College at the University of Calcutta under sponsorship of the Agency for International Development of U.S. Government.
- John P. Arnold, professor and head veterinary surgery and radiology, without salary May 1 to July 31, 1963, to serve as a special consultant for the Agency for International Development in Colombia, South America.
- Ralph F. Berdic, professor of psychology and director Student Counseling Bureau, without salary November 1, 1962 to January 31, 1963, to serve as a consultant for the Ford Foundation regarding the University of Calcutta, India.
- David K. Berninghausen, professor and director Library School, without salary July 1, 1962 to August 15, 1963, to serve as professor of library science and adviser on university libraries at National University of Taiwan.
- George R. Blake, professor of soils, sabbatical furlough August 1, 1962 to July 31, 1963, to do research on soil structure at the Institut fur Bodenbearbeitung of the Forschungsanstalt fur Landwirtschaft at Braunschweig-Volkenrode, West Germany.
- Bernard R. Bowron, Jr., professor of English and chairman of American Studies, sabbatical furlough for 1962-63, to complete a book and do research in the Mark Twain collection at the University of California, Berkeley.
- May Brodbeck, professor of philosophy, without salary for 1962-63, to accept a Fulbright research grant for research in philosophy in Italy.
- Martin Bronfenbrenner, professor of economics School of Business Administration, without salary for 1962-63, to teach at the Carnegie Institute of Technology.
- Eugenio Calabi, professor of mathematics Institute of Technology, sabbatical furlough for 1962-63, to complete research work on several topics in global differential geometry, at the University of Pisa, Italy.

- Roy E. Carter, Jr., professor School of Journalism, sabbatical furlough for the fall and winter quarters of 1962-63, to serve as visiting professor at the University of Chile under a Fulbright award.
- Harold W. Chase, professor of political science, without salary December 16, 1962 to June 15, 1963, for research at Brookings Institute, Washington, D.C.
- Clyde M. Christensen, professor of plant pathology and botany, without salary January 1 to June 15, 1963, to serve as a special scientific aide to the Rockefeller Foundation project in Mexico City, Mexico.
- Willard W. Cochrane, professor of agricultural economics, continuation of leave without salary for 1962-63, to serve as director of agricultural economics, U.S. Department of Agriculture.
- Maynard M. Cohen, professor psychiatry and neurology, with salary paid directly by Research Funds July 21 to September 20, 1962, for research with Professor E. B. Chain at the Instituto Superiore de Sanita in Rome, Italy.
- Harold C. Deutsch, professor and chairman history, with salary April 16 to June 15, 1963, to accept a guest professorship at the Free University of Berlin.
- Francis E. Drake, professor of rhetoric, sabbatical furlough for spring quarter of 1962-63, for travel in Greece, Italy, and Central Europe, in order to broaden understanding of European humanities.
- Ernst R. G. Eckert, professor and director thermodynamics and heat transfer, mechanical engineering, sabbatical furlough October 1, 1962 to March 31, 1963, to accept a Fulbright grant for research at Stuttgart, Germany.
- Lorenz E. A. Eitner, professor of art, without salary for 1962-63, to serve as associate director of a Ford Foundation sponsored survey of the arts in American higher education.
- George W. England, professor School of Business Administration and acting assistant director of Industrial Relations Center, sabbatical furlough for 1962-63, to do independent reading and study in the area of organizational theory at Stanford University and the University of California, Berkeley.
- Richard K. Gaumnitz, professor of business functions and management, without salary for spring quarter of 1962-63 to study French in Europe.
- Lawrence E. Goodman, professor of aeronautics and engineering mechanics, sabbatical furlough for 1962-63, to study and conduct research on stresses and energy dissipation arising from friction, at engineering laboratory, Cambridge University, England.
- Mark A. Graubard, professor Interdisciplinary Programs, with salary February 18 to March 27, 1963, to give a series of lectures at the University College of the West Indies, Jamaica.
- Walter W. Heller, professor of economics School of Business Administration, continuation of leave without salary for 1962-63, to serve as chairman of the President's Council of Economic Advisers, Washington, D.C.
- James M. Henderson, professor of economics School of Business Administration, continuation of leave without salary for 1962-63, to serve as director of research Ford Foundation Economic Study of the Upper Midwest Region.
- James L. Hetland, Jr., professor Law School, without salary February 1 to June 15, 1963, to teach at University of California Law School, Berkeley.
- James F. Hogg, professor Law School, without salary for 1962-63, to teach at Columbia University Law School.
- Frederick G. Holdaway, professor of entomology, fisheries and wildlife, with salary December 5, 1962 to January 31, 1963, on account of illness.
- William H. Hollinshead, professor of anatomy Mayo Foundation, without salary January 1 to March 31, 1963, to serve as visiting professor of anatomy at University of Washington.
- Ralph H. Hopp, professor and associate director of Libraries, sabbatical furlough September 15, 1962 to August 15, 1963, to accept a Fulbright grant to lecture at the University of Ankara, Turkey.
- Harold L. James, professor of geology, without salary November 16, 1962 to June 30, 1963, for personal reasons.

- Bjarni Jonsson, professor of mathematics SLA, without salary for 1962-63, to serve as visiting professor at University of California.
- Richard C. Jordan, professor and head mechanical engineering, with salary October 15 to November 16, 1962, to serve as a member of the U.S. delegation to World Power Conference in Melbourne, Australia; and with salary February 5 to March 15, 1963, to participate in a Science Mission under the U.S. Department of State and CENTO nations sponsorship to survey and study the obstacles to the advancement of science and technology in Turkey, Iran and Pakistan.
- Gerhard K. Kalisch, professor of mathematics SLA, sabbatical furlough for 1962-63, for study and research in functional analysis at the University of Paris.
- Harry W. Kitts, professor of agricultural education, continuation of leave without salary for 1962-63, to complete assignment of assisting in the improvement of agricultural education at Kasetsart University, Bangkok, Thailand.
- Joseph J. Kwiat, professor interdisciplinary programs, sabbatical furlough for 1962-63, to serve as Fulbright lecturer in American literature and American studies at the University of Innsbruck, Austria.
- Elmer W. Learn, professor of agricultural economics, continuation of leave without salary July 1 to November 30, 1962, to work on a co-operative research project with the Economic Research Service and the Foreign Agriculture Service, U.S. Department of Agriculture.
- Werner Levi, professor of political science, without salary for 1962-63, to assist in creating an International Relations Center at University of Hawaii.
- Willem J. Luyten, professor and chairman of astronomy, sabbatical furlough for 1962-63, to make observations at Mount Palomar Observatory.
- John L. McKelvey, professor and head obstetrics and gynecology, without salary July 1, 1962 to June 30, 1963, to help organize a department of obstetrics and gynecology at University of Malaya, Singapore.
- William C. Meecham, professor aeronautics and engineering mechanics, with salary March 16 to June 15, 1963, paid on ONR contract through the University of Minnesota, to do research at the University of California, La Jolla.
- Samuel H. Monk, professor of English, without salary for the spring quarter of 1962-63, to accept a research fellowship at the William Andrew Clark Memorial Library, Los Angeles, California.
- Edward P. Ney, professor School of Physics, sabbatical furlough for 1962-63, to accept a National Science Foundation fellowship for research on radio astronomical techniques in Australia.
- Gerald B. Ownbey, professor of botany, sabbatical furlough December 16, 1962, to June 15, 1963, for research and advanced training at several leading botanical institutions.
- Ralph A. Piper, professor physical education and athletics, without salary for 1962-63, to accept a Fulbright lectureship at Teachers Training College, University of Tehran, Iran.
- Edgar L. Piret, professor of chemical engineering, continuation of leave without salary for 1962-63, to serve as science attaché to the Department of State, U.S. Embassy in Paris, France.
- Helmuth Rohrl, professor of mathematics IT, without salary for 1962-63, to serve as visiting professor at Harvard University.
- John Rood, professor of art, without salary for winter quarter of 1962-63, for trip to warmer climate on account of wife's health.
- Arnold M. Rose, professor of sociology, without salary January 1 to April 20, 1963, to serve as representative in the Minnesota State Legislature.
- Paul C. Rosenbloom, professor of mathematics IT, 75 per cent time leave without salary for 1962-63, to serve one-fourth time as director of Mathematics Section of the Minnesota National Laboratory and one-half time as director of the School Mathematics Center.
- Lyndell N. Scott, professor School of Social Work, sabbatical furlough for 1962-63, to study Latin American problems and area studies, time to be spent at University of Minnesota, Mexico City College, and the Southwest.

- Mulford Q. Sibley, professor of political science, without salary for 1962-63, to serve as visiting professor at Cornell University.
- Louise A. Stedman, director and professor School of Home Economics, sabbatical furlough March 25 to September 21, 1963, to visit institutions in foreign countries and attend the International Home Economics meeting in Paris.
- Marvin J. Taves, professor of sociology, without salary for 1962-63, to serve as acting director Field Services Division Special Staff on Aging, U.S. Department of Health, Education, and Welfare.
- Herbert E. Wright, Jr., professor of geology, without salary for spring quarter 1962-63, for geological field work in Iran for Oriental Institute of University of Chicago.
- Raimunds Zemjanis, professor and head department of veterinary obstetrics and gynecology, without salary August 1 to December 15, 1962, for a temporary assignment by the Agency for International Development to serve as a specialist consultant in Colombia, South America.
- John Berryman, associate professor interdisciplinary programs, without salary for 1962-63, to serve as writer-in-residence at Brown University.
- Fred H. Blum, associate professor interdisciplinary programs, continuation of leave without salary for 1962-63, for research project on religious principles for the industrial-social order in London.
- Mary E. Corcoran, associate professor Bureau of Institutional Research, continuation of leave without salary July 1 to September 30, 1962, to serve as consultant to the College Entrance Examination Board for the International Study of University Admissions conducted under the sponsorship of UNESCO and the International Association of Universities.
- J. Campbell Craddock, associate professor of geology, sabbatical furlough for 1962-63, to lead a geologic expedition to the unvisited Heritage Range, Antarctica, as part of the U.S. Antarctica Research Program and to study the transcurent fault system of Marlborough district in New Zealand in collaboration with the New Zealand Geologic Survey.
- Reynold P. Dahl, associate professor agricultural economics, without salary August 1, 1962 to August 15, 1963, to undertake an assignment with the American Soybean Council and the FAS, U.S. Department of Agriculture, in studying, analyzing and promoting the exports of American soybeans and related products in the Common Market area.
- N L Gault, Jr., associate professor of medicine and assistant dean College of Medical Sciences, without salary May 1 to July 31, 1963, to return to Seoul National University to assist the China Medical Board of New York, Inc., program in international medical education.
- Sudhish G. Ghurye, associate professor of statistics SLA, without salary for 1962-63, for research at Indiana State University.
- Ledru O. Guthrie, associate professor of English, sabbatical furlough for spring quarter of 1962-63, to assemble data bearing on changes in English requirements in the institutes of technology in southeastern states from Virginia to Georgia.
- Robert L. Hall, associate professor of sociology Office of the Dean of Students, continuation of leave without salary for 1962-63, to serve as program director of sociology and social psychology division with the National Science Foundation.
- John H. Kareken, associate professor of economics School of Business Administration, without salary for 1962-63, to serve as consultant to the U.S. Treasury Department.
- Paul J. Kellogg, associate professor School of Physics, sabbatical furlough for 1962-63, to study at the observatory of Meudon, France.
- Maurice M. Kreevoy, associate professor School of Chemistry, sabbatical furlough for 1962-63, to do research at Oxford University.
- Curtis L. Larson, associate professor of agricultural engineering, without salary for fall quarter of 1962-63 and a sabbatical furlough December 16, 1962 to December 15, 1963, to accept a National Science Foundation fellowship and complete work for Ph.D. in civil engineering at Stanford University.
- Edith M. Lentz, associate professor School of Public Health, without salary July 26 to September 8, 1962, to serve on an institute in hospital adminis-

- tration in Manila, sponsored by the government of the Philippines and the World Health Organization.
- E. Scott Maynes, associate professor of economics School of Business Administration, without salary for 1962-63, to serve as consultant on Response Errors in Financial Surveys for the Bureau of the Census, Washington, D.C.
- Rupert I. Murrill, associate professor of anthropology, without salary December 16, 1962 to June 15, 1963, for travel and study of primate skeletal remains in Greece and Kenya, East Africa.
- Mayo K. Newhouse, associate professor School of Social Work, sabbatical furlough for 1962-63, to study at the University of Southern California.
- Pearl C. Niemi, associate professor of Slavic and Oriental Languages, sabbatical furlough for 1962-63, to study at the British Museum and other libraries in England, Bibliotheque Nationale in Paris, and the library at the University of Helsinki, Finland.
- Richard E. Norris, associate professor of botany, without salary for 1962-63, to serve as specialist on phytoplankton for investigations aboard ship on all biological cruises during the United States participation in the International Indian Ocean Expedition.
- Luther J. Pickrel, associate professor Agricultural Extension, without salary July 1, 1962 to January 15, 1963, to serve on Peace Corps project.
- Warren L. Reynolds, associate professor School of Chemistry, sabbatical furlough for 1962-63, to study at Washington University, St. Louis, Missouri (9 months), and Cambridge University, England (3 months).
- Jay Y. Roshal, associate professor and chairman Division of Science and Mathematics, Morris, without salary for 1962-63, to serve in the Secretariat of the Board in the bio-medical area of the National Science Space Board Staff in Washington, D.C.
- Richard H. Rust, associate professor soil science, without salary April 16 to May 31, 1963, to accept employment by Ebasco Services, Inc., of New York, to make agronomic feasibility study in selected areas of Euphrates river valley in Turkey.
- Norman J. Simler, associate professor of economics School of Business Administration, without salary for 1962-63, to serve as senior economist on the Council of Economic Advisers, Washington, D.C.
- Robert C. Slater, associate professor of mortuary science, leave for 25 per cent time without salary July 1, 1962 to June 30, 1963, for work with National Funeral Directors Association.
- David A. Storvick, associate professor of mathematics SLA, without salary for 1962-63, to spend the year at the Mathematics Research Center of U.S. Army at Madison, Wisconsin.
- Walter H. Uphoff, associate professor Industrial Relations Center, without salary April 30 to May 15, 1963, to visit with German trade union leaders in a follow-up on a Fulbright research project done in 1958-59.
- Aram Vartanian, associate professor Romance Languages, without salary for 1962-63, to accept a Fulbright research grant for work in France.
- Lee W. Wattenberg, associate professor pathology, sabbatical furlough October 1, 1962 to September 30, 1963, for study and research at Chester Beatty Institute in London, England.
- William E. Wright, associate professor of history, sabbatical furlough for 1962-63, to accept a Fulbright research fellowship to Austria to conduct research on a historical biography of Joseph II.
- Constantine Anagnostopoulos, assistant professor of microbiology, continuation of leave without salary July 1, 1962 to June 30, 1963, for trip to Europe.
- Charles H. Backstrom, assistant professor political science, without salary for spring quarter of 1962-63, to do research for the University Committee on Urban Studies toward metropolitan integration in the Twin Cities.
- Robert W. Bath, assistant professor, assistant state leader 4-H Club, Agricultural Extension, continuation of leave without salary from July 1, 1962 to June 15, 1963, for graduate work at University of Wisconsin.
- Glenn M. Christensen, assistant professor chemistry, University of Minnesota at Duluth, without salary December 16, 1962 to June 15, 1963, to accept

- a special research fellowship from the U.S. Department of Health, Education, and Welfare at the National Heart Institute, Bethesda, Maryland.
- Brooks C. Church, assistant professor of microbiology, without salary September 16 to November 30, 1962, to spend time at University of Washington.
- Donald H. Clifford, assistant professor veterinary surgery and radiology, without salary for 1962-63, to carry out special work at the Brookhaven National Laboratories of the Associate Universities at Upton, Long Island, New York.
- Peter L. Crawley, assistant professor of mathematics SLA, without salary for 1962-63, to serve as visiting professor at University of California, Berkeley.
- Erwin Engeler, assistant professor of mathematics SLA, without salary for 1962-63, to do research at Berkeley, California.
- Peter Gregory, assistant professor of economics School of Business Administration, without salary for 1962-63, to serve as a staff member at University of Chile in Santiago, sponsored by AID and administered by Cornell University.
- Martin H. Lease, Jr., assistant professor Division of Social Science, University of Minnesota at Duluth, without salary for fall and winter quarters of 1962-63, to continue studies under a Citizenship Clearing House Committee fellowship on political parties in operation.
- Richard A. Narvaez, assistant professor of Romance Languages, without salary for 1962-63, to accept an invitation to lecture and do research in Spanish linguistics at the Instituto Caro y Cuervo and the Centro Andres Bello in Bogota, Colombia, under the Fulbright Act.
- Marion J. Nelson, assistant professor Scandinavian, sabbatical furlough for 1962-63, to complete several articles on a Norwegian-American pioneer wood carver and to write a book on commercial art pottery of Ohio.
- George L. Perry, assistant professor economics and Ford Foundation Upper Midwest Economic Survey, continuation of leave without salary for 1962-63, for work with the Council of Economic Advisers in Washington, D.C.
- Paul G. Quie, assistant professor of pediatrics for 1962-63, with stipend from the U.S. Public Health Service through the University of Minnesota, to continue investigation of host factors in response to bacterial disease with Dr. James G. Hirsch at the Rockefeller Institute.
- Marcel K. Richter, assistant professor economics School of Business Administration, without salary for 1962-63, to study mathematics at the University of California, Berkeley.
- Arnold K. Sandager, agricultural agent and assistant professor Agricultural Extension, sabbatical furlough October 22, 1962, to June 15, 1963, to work toward master of arts degree.
- Philip Siegelman, assistant professor interdisciplinary programs, sabbatical furlough for 1962-63, to study Indian minorities in Southeast Asia.
- Larry A. Sjaastad, assistant professor of economics School of Business Administration, without salary for 1962-63, to join the University of Chicago Department of Economics in an effort to establish an economics research center at the National University of Cuyo, Mendoza, Argentina.
- Roy L. Thompson, assistant professor West Central School of Agriculture, sabbatical furlough January 2 to December 31, 1963, for graduate work at Pennsylvania State University.

LEAVES OF ABSENCE, 1963-64

- Richard W. Anderson, professor of psychiatry and neurology, sabbatical furlough September 1, 1963 to August 31, 1964, to study family and community psychiatry in England, Scotland, Holland, and France.
- John Berryman, professor of interdisciplinary programs, sabbatical furlough for 1963-64, for research and writing a biography of Shakespeare.
- William F. Brown, Jr., professor of electrical engineering, sabbatical furlough for 1963-64, to do research aimed at the development and applica-

- tion of a systematic and self-consistent theory of magneticelastic interactions in ferromagnetic materials in many European countries.
- Oswald H. Brownlee, professor of economics, without salary for winter quarter of 1963-64, to serve as senior staff member of Minnesota-Los Andes-AID project in Bogota, Colombia.
- John A. Buttrick, professor of economics, sabbatical furlough for 1963-64, to accept a Fulbright Grant for lecturing and research at University of Tokyo, Japan.
- Harold W. Chase, professor of political science, without salary for 1963-64, to accept a visiting professorship at Columbia University.
- Warren B. Cheston, professor and associate chairman, School of Physics, without salary for 1963-64, to accept a temporary position with the United States government.
- John S. Chipman, professor of economics, without salary for fall quarter of 1963-64, for research and lecturing at University of Rochester.
- Theodore W. Clymer, professor of elementary education, 50 per cent time leave without salary for 1963-64, to do research in reading instruction and to serve as president-elect of the International Reading Association and the National Council of Research in English.
- Willard W. Cochrane, professor of agricultural economics, continuation of leave for 1963-64 without salary, to serve as Director of Agricultural Economics, U.S. Department of Agriculture.
- Ralph E. Comstock, professor of animal husbandry, without salary February 1 to May 31, 1964, to serve as visiting professor at the University of California.
- Norman J. DeWitt, professor and chairman, Department of Classics, sabbatical furlough for 1963-64, for research and writing on Roman literary criticism.
- Gertrude A. Esteros, professor, School of Home Economics, without salary for fall quarter of 1963-64, to serve as consultant and lecturer at Pennsylvania State University, in housing and home art department.
- Francois N. Frenkiel, professor of aeronautics and engineering mechanics and School of Physics, 50 per cent time leave without salary for 1963-64, to complete earlier commitments at David Taylor Model Basin.
- Harry Furstenberg, professor of mathematics, CLA, without salary for 1963-64, to serve at Princeton University.
- Joseph G. Gall, professor of zoology, without salary for 1963-64, to serve as visiting associate professor in biology at Yale University.
- Lester E. Hanson, professor and head of animal husbandry, without salary October 1 to November 15, 1963, to serve as consultant to Ford Foundation in evaluation of agricultural education and development in Chile.
- Starke R. Hathaway, professor and director, Division of Clinical Psychology, sabbatical furlough October 16, 1963 to July 15, 1964, to serve as visiting professor at the National University of Mexico City.
- Robert L. Heller, professor and head of geology, University of Minnesota at Duluth, without salary for 1963-64, to direct the American Geological Institute's Earth Sciences Curriculum Project.
- Walter W. Heller, professor of economics, continuation of leave without salary for 1963-64, to serve as chairman of President Kennedy's Council of Economic Advisers.
- Philip D. Jordan, professor of history, sabbatical furlough for 1963-64, to do research on Old World roots of American thought and culture in the British Isles, France, Germany, Portugal, and Spain.
- Ancel Keys, professor and director, laboratory of physiological hygiene in the School of Public Health, sabbatical furlough September 16, 1963 to June 15, 1964, for follow-up on long-term research programs in Europe and to supervise the European laboratory center at the University of Naples, Italy.
- Harry W. Kitts, professor of agricultural education, continuation of leave without salary for 1963-64, to supervise the educational program in Thailand.
- Blanchard O. Krogstad, professor of biology, University of Minnesota at Duluth, sabbatical furlough for 1963-64, to do research and develop a

- course in ecology of animal populations, time to be spent at the Post-Graduate School of the National School of Agriculture, Chapingo, Mexico.
- Jean W. Lambert, professor of agronomy and plant genetics, sabbatical furlough January 1 to December 31, 1964, to study growth and development of soybeans under conditions of central Chile, to evaluate the effectiveness of Minnesota's graduate student training in terms of the performance of former students now returned to Chile, and to observe content of agronomic training in three Chilean universities.
- Gardner Lindzey, professor of psychology, without salary for 1963-64, to serve at the Center for Advanced Study in the Behavioral Sciences at Stanford, California.
- Benjamin E. Lippincott, professor of political science, without salary for fall quarter of 1963-64, for research and writing.
- Kenneth MacCorquodale, professor of psychology, without salary February 1 to June 15, 1964, to accept a visiting professorship at the University of California, Riverside.
- Homer T. Mantis, professor, School of Physics, without salary for 1963-64, to serve as visiting professor at the University of Washington.
- Lawrence Markus, professor of mathematics, IT, sabbatical furlough for 1963-64, for research and study on differential equations and differential geometry on a Guggenheim Foundation fellowship at Lausanne, Switzerland.
- Anne W. Oren, professor, School of Social Work, sabbatical furlough for 1963-64, for study of current social programs and policies involving culturally and socially deprived children.
- Edgar L. Piret, professor of chemical engineering, continuation of leave without salary for 1963-64, to serve as Science Attaché to the Department of State, U.S. Embassy in Paris.
- Edgar Reich, professor of mathematics, IT, sabbatical furlough for 1963-64, to study problems in functions of a complex variable and probability theory at Stanford University.
- Paul C. Rosenbloom, professor of mathematics, IT, continuation of 75 per cent time leave without salary for 1963-64, to serve one-fourth time as Director of the Mathematics Section of the Minnesota National Laboratory for improvement of secondary school mathematics and one-half time as Director of the School Mathematics Center at the University of Minnesota.
- Skuli Rutford, professor and director, Agricultural Extension, with salary October 1 to December 31, 1963, on account of illness.
- Louis T. Safer, professor of general arts, General College, sabbatical furlough for 1963-64, to study the new forms of art being produced in Europe and America today.
- T. Michael Sanders, Jr., professor, School of Physics, without salary for 1963-64, to serve as visiting professor at University of Michigan.
- James B. Serrin, Jr., professor of mathematics, IT, without salary for spring quarter of 1963-64, to serve as visiting professor at the University of Chicago.
- Milton Sobel, professor of statistics, without salary for 1963-64, to be in direct contact with other scholars in his field of research and particularly with the authors of the book he is working on at Stanford University.
- Marvin L. Stein, professor of mathematics, IT, and director, Numerical Analysis Center, sabbatical furlough July 1, 1963 to June 30, 1964, for studies in mathematical numerical analysis and the applications of modern computational methods to problems of atomic physics, time to be spent at the Weizmann Institute of Science, Rehoboth, Israel.
- Harold B. Swanson, professor and head, Information and Agricultural Journalism, Institute of Agriculture, sabbatical furlough October 1, 1963 to September 30, 1964, for graduate work toward a Ph.D. at the National Agricultural Extension Center for Advanced Study at the University of Wisconsin.
- Albert Tezla, professor of English, University of Minnesota at Duluth, without salary for fall and spring quarters of 1963-64, to serve as a participant in an exchange between Soviet and American institutions.

- Dimitri T. Tselos, professor of art, sabbatical furlough for 1963-64, to collect documentary material for two books.
- Leonard H. Unger, professor of English, sabbatical furlough for 1963-64, to accept a Fulbright lectureship at the University of Athens, Greece.
- Dorothy A. Whitmore, professor, School of Social Work, sabbatical furlough for 1963-64, to explore developments in teaching of untrained social workers employed in public welfare agencies.
- Benjamin Willerman, professor of psychology, Student Counseling Bureau, without salary for 1963-64, to serve as staff associate of the Social Science Research Council.
- Jesse B. Williams, professor of dairy husbandry, sabbatical furlough for 1963-64, to study experimental calf nutrition methods in Europe.
- Harold J. Alford, associate professor of evening and special classes, General Extension Division, without salary February 1 to June 30, 1964, to accept a Kellogg Foundation grant and write a book on the history of residential adult education.
- Mark Bolsterli, associate professor, School of Physics, without salary for winter quarter of 1963-64, to serve as visiting consultant at Los Alamos National Laboratory.
- J. Doyle Britton, associate professor of inorganic chemistry, sabbatical furlough for 1963-64, to study inorganic synthesis at the University of London and x-ray crystallography at the Swiss Federal Institute of Technology in Zurich.
- Byron W. Brown, Jr., associate professor, School of Public Health, without salary for 1963-64, to serve as visiting professor at Stanford University.
- Erwin Engeler, associate professor of mathematics, CLA, without salary for 1963-64, to work in industry in Switzerland.
- Charles Fairhurst, associate professor, School of Mines and Metallurgy, sabbatical furlough for 1963-64, to develop improved courses in rock mechanics with time to be spent at the University of Nottingham, England.
- James L. Gibbs, Jr., associate professor of anthropology, without salary for 1963-64, to accept a Social Science Research Council postdoctoral fellowship for research training in methods of personality assessment in the department of psychology, University of Minnesota.
- Gordon T. Heistad, associate professor of psychiatry and neurology, sabbatical furlough September 1, 1963 to June 30, 1964, to review literature, analysis of data and writing of research publications done in connection with a United States Public Health Service grant, time to be spent at California Lutheran College, Thousand Oaks, California.
- Minerva O. Jenson, associate professor and district supervisor, home economics extension, Agricultural Extension, with salary November 18 to December 15, 1963, on account of illness.
- Charles H. Kraft, associate professor of statistics, 75 per cent time leave without salary for 1963-64, to work for the Minnesota State Board of Education.
- Fred E. Lukermann, Jr., associate professor of geography, sabbatical furlough for spring quarter 1963-64, for field research in Greece for book on the history of ancient geography.
- Warren D. MacKenzie, associate professor of art, sabbatical furlough for 1963-64, for creative work in ceramics in England.
- Richard B. Mather, associate professor of Slavic and Oriental languages, sabbatical furlough for 1963-64, to complete the translation and editing of a medieval Chinese document at Humanistic Institute of Kyoto University, Japan.
- E. Scott Maynes, associate professor of economics, 50 per cent time leave without salary for 1963-64, to continue research for the Bureau of the Census, Washington, D.C.
- Charles A. McCarthy, associate professor of mathematics, CLA, without salary for 1963-64, to accept an Alfred P. Sloan Research Foundation fellowship for research in functional analysis at Courant Institute of Mathematical Sciences, New York.
- Theodore J. Mentel, associate professor of aeronautics and engineering mechanics, without salary for 1963-64, to work on structural mechanics prob-

- lems as a member of the engineering staff at Grumman Aircraft Company, Long Island, New York.
- Mayo K. Newhouse, associate professor, School of Social Work, without salary for 1963-64, to complete project and advanced study at the University of Southern California.
- Robert R. Owens, associate professor of English, University of Minnesota at Duluth, sabbatical furlough for 1963-64, to teach without salary at Mugobansonga School in Masaka, Uganda.
- Karl H. Potter, associate professor of philosophy, sabbatical furlough for 1963-64, to work on problems of metaphysics and serve as co-ordinating editor of *The Encyclopedia of Indian Philosophies*, time to be spent in India and England.
- Mordecai Roshwald, associate professor, interdisciplinary programs, without salary for 1963-64, to serve as visiting associate professor at the Technion (Israel Institute of Technology) in Haifa, Israel.
- Karl L. Selig, associate professor of romance languages, without salary for 1963-64, to serve as visiting professor at the University of Texas.
- Wesley Simonton, associate professor, Library School, without salary from July 1, 1963 to September 15, 1964, to serve as a consultant in a program relating to mechanization at Library of the Thomas J. Watson Research Center of International Business Machines Corporation.
- Angus R. Stoesz, clinical associate professor, School of Dentistry, without salary for 1963-64.
- Fernando Torres, associate professor of psychiatry and neurology, sabbatical furlough November 1, 1963 to October 31, 1964, to do research on a new technique for studying the electrical activity of the human brain at La Salpetriere hospital in Paris, France.
- Forrest L. Vance, associate professor of psychology, Student Counseling Bureau, without salary August 1, 1963 to June 30, 1964, to accept an assignment in the central office of the American Psychological Association, Washington, D.C., as an administrative officer for scientific and professional ethics.
- Edward M. Foster, assistant professor of economics, without salary for 1963-64, to serve as chief of party of the Minnesota-Los Andes-AID project at Bogota, Colombia.
- Peter Gregory, assistant professor of economics, continuation of leave without salary for 1963-64, to serve as a staff member of a program in industrial relations and labor economics at the University of Chile, sponsored by AID and administered by Cornell University.
- John C. Hause, assistant professor of economics, without salary for 1963-64, to work on economic problems of national defense at the Institute of Defense Analysis, Washington, D.C.
- Frank B. Knight, assistant professor of mathematics, CLA, without salary for 1963-64, to serve as visiting assistant professor at the University of Illinois.
- Edgar L. Makowski, assistant professor of obstetrics and gynecology, without salary September 16, 1963 to September 15, 1964, to work under the direction of Dr. Donald H. Barron, department of physiology at Yale University.
- Karl F. Morrison, assistant professor of history, without salary for 1963-64, for research abroad under an ACLS fellowship.
- Arthur R. Page, assistant professor of pediatrics, with salary September 1, 1963 to August 31, 1964, to work with Dr. Manfred Karnovsky of the Harvard Medical School in the field of biochemistry.
- Paul G. Quie, assistant professor of pediatrics, continuation of leave with salary for 1963-64, to serve as guest investigator of the Rockefeller Institute, New York.
- Marcel K. Richter, assistant professor of economics, continuation of leave without salary for fall quarter of 1963-64, to study mathematics at the University of California.
- Larry A. Sjaastad, assistant professor of economics, continuation of leave without salary for 1963-64, to work with Department of Economics of the University of Chicago, in an effort to establish an economic research center at the National University of Cuyo, Mendoza, Argentina.

- Theofanis G. Stavrou, assistant professor of history, 75 per cent time leave without salary and 25 per cent time with salary for 1963-64, to accept an appointment by the Inter-University Committee as a participant on the U.S.-Soviet Union Cultural Exchange Program at the University of Leningrad.
- Warren B. Stenberg, assistant professor of mathematics, IT, sabbatical furlough for 1963-64, to accept a Science Faculty Fellowship from the National Science Foundation, to do research at University of California, Berkeley.
- Wallace M. Wass, assistant professor of veterinary medicine and clinics, without salary August 1, 1963 to June 30, 1964, to serve as consultant to the Agency for International Development Mission in Colombia, South America.
- John W. Webb, assistant professor of geography, sabbatical furlough for 1963-64, for research and writing in geographical and locational aspects of population changes in economically advanced countries during and since the industrializing age, headquarters in London, England.
- James A. Wright, assistant professor of English, without salary for 1963-64, to accept a position at Macalester College.

SHORT-TERM LEAVES

In accordance with the plan announced in the *President's Report* for 1952-54, page 14, the following short-term leaves were granted:

1962-63

- Paul W. Bamford, associate professor of history, fall quarter, to do research and writing on a history of French galleys in the period, 1660-1748.
- Lyda C. Belthuis, professor of geography, Duluth, spring quarter, to do a geographic study of lumbering in Minnesota.
- John Berryman, associate professor of English, fall quarter, to do final research and writing of a monograph called *Shakespeare's Friend*. (Canceled.)
- Keith S. Champlin, associate professor of electrical engineering, spring quarter, to study European research in semiconductors.
- Harold W. Chase, professor of political science, fall quarter, to do a research project on Federal judges: characteristics and selection.
- Henry B. Clark, Jr., professor of dentistry, spring quarter, to conduct a comprehensive review of certain major oral surgical cases cared for by this division during the past fourteen years.
- David Cooperman, associate professor of interdisciplinary studies, spring quarter, to do an analysis of functional explanations of Soviet and American law.
- Laddie J. Elling, associate professor of agronomy and plant genetics, winter quarter, to do a refresher study in genetics, plant breeding, and statistics at the Oregon State University. (Canceled.)
- Paul W. Gast, associate professor of geology, spring quarter, to do research at the Geophysical Laboratory and Department of Terrestrial Magnetism in Washington.
- Charles E. Gates, associate professor, Agricultural Experiment Station, summer 1962, to study stochastic processes and theory of functions.
- Frederick G. Goetz, associate professor of medicine, summer 1962, to do research on current biochemical concepts of the metabolism of the pancreatic islet tissue at Marine Biological Institute, Woods Hole, Massachusetts.
- Edmund F. Graham, professor of dairy husbandry, winter quarter, to conduct research on the preservation of porcine and bovine spermatozoa.
- Armin Grams, associate professor, Institute of Child Development, winter quarter, to prepare the final report of a seven-year study of reading disability in elementary school children. (Canceled.)

- Howard G. Hanson, professor of physics, Duluth, spring quarter, to visit the leading spectroscopic research institutions of Sweden to study the techniques of excitation and rapid recording of atomic and molecular spectra.
- Herbert Heneman, professor and acting director, Industrial Relations Center, fall quarter, to study classification, integration and synthesis of industrial relations theories.
- Robert S. Hoyt, professor of history, spring quarter, for analysis of Domesday Book and related documents for evidence relating to Anglo-Norman administrative history.
- William F. Hueg, Jr., associate professor and extension agronomist, Agricultural Extension, summer 1962, to study and evaluate forage production and forage analysis programs in the eastern United States. (Canceled.)
- Warren E. Ibele, professor of mechanical engineering, spring quarter, to complete a number of research investigations and to study and do research in the area of rarefied gas dynamics.
- Washington D. Lacabanne, associate professor of mining engineering, winter quarter, for special course study of fluid flow through porous media.
- Fred E. Lukermann, Jr., assistant professor of geography, fall quarter, to study routes and centers in Asia Minor: archaeological evidence to the Fifth Century B.C.
- William A. McDonald, professor of Classics, spring quarter, to carry on program of archaeological field exploration in southwestern Greece.
- Forrest G. Moore, associate professor of education and director Office of Adviser to Foreign Students, January 1-March 31, 1963, to carry forward at the University of Chicago Comparative Education Center a study of the way in which comparative education materials can be utilized to improve for all foreign students the understanding of higher education in the United States.
- Allan H. Morrish, professor of electrical engineering, spring quarter, to study antiferromagnetic materials.
- Johannes C. C. Nitsche, professor of mathematics, Institute of Technology, fall quarter, to study minimal surfaces in preparation for a monograph.
- Theron O. Odlaug, professor of biology, Duluth, spring quarter, to study limnological and oceanographic methods currently utilized in certain Scandinavian stations.
- Robert R. Owens, associate professor of English, Duluth, winter quarter, to continue research on Jonathan Swift's hostility to science. (Canceled.)
- Walter T. Pattison, professor of Romance Languages, spring quarter, to study the impact of French naturalistic writers in Spain.
- Walter W. Quirt, professor of art, fall quarter, to study creative landscape painting in the southwestern part of the United States.
- Francis V. Raab, associate professor of philosophy, spring quarter, to work on a book whose subject is the relation of mental states to brain states and behavior.
- Ralph E. Rapson, professor of architecture, winter quarter, for Mexico and Central American architecture and planning tour.
- Ralph G. Ross, professor in humanities, spring quarter, to complete the writing of a book based on the Maurice Falk lecture series "Society and Politics."
- Nelson T. Spratt, professor of zoology, spring quarter, to accelerate progress on current problems dealing with integrative mechanisms in cell populations, etc., and to write research reports in collaboration with co-investigator, Dr. Hermann Haas, at the University of South Dakota.
- Martin Steinmann, Jr., professor of English, winter quarter, to complete a book on meaning, form, and convention.
- Grover C. Stephens, associate professor of zoology, winter quarter, to study uptake of dissolved organic materials by *Nereis lighti*.
- Richard A. Swalin, professor of metallurgy, spring quarter, to do research on the defect chemistry of oxides.
- Mildred C. Templin, professor Child Development, spring quarter, to study language and reasoning of children with defective hearing.
- Paul E. Waibel, associate professor of poultry husbandry, summer 1962, to take training course on radio-isotope techniques given by U.S. Atomic Energy Commission at Oak Ridge, Tennessee.

- Melvin Waldfogel, associate professor of art, fall quarter, to do an iconographical study of the *Artist and Model*.
- Clifford N. Wall, professor of physics, spring quarter, to study current teaching practices and methods in general physics courses given in British universities.
- Franklin G. Wallace, associate professor of zoology, spring quarter, for comparative studies on the trypanosomatidae of insects.
- Brom Weber, associate professor of English, spring quarter, to study the "humorous vision" in American literature and culture.
- David H. Willson, professor of history, spring quarter, to do research and writing in England on the book *King James I and Anglo-Scottish Unity*.

1963-64

- Ernst C. Abbe, professor of botany, spring quarter, for phylogenetic studies in the *Fagaceae*.
- George Amberg, professor of humanities, fall quarter, for research and writing project devoted to the study of *Surrealist Imagery*, with special emphasis on the surrealist motion picture.
- Robert J. Ames, associate professor of humanities, spring quarter, to study renaissance art in Rome.
- Robert H. Beck, professor of education, winter quarter, for comparative education study in India. (Canceled.)
- John Berryman, professor of humanities, winter quarter, for final research on and writing of a monograph called *Shakespeare's Friend*. (Canceled.)
- Emma M. Birkmaier, professor, University High School, fall quarter, for foreign language teaching and teacher training program in the U.S.S.R.
- Robert L. Bliss, associate professor of architecture, spring quarter, for comparative study of architectural education and practice. (Canceled due to his termination.)
- John Dahler, professor of chemical engineering, spring quarter, to study molecular quantum mechanics at the University of Wisconsin Theoretical Chemistry Laboratory.
- William H. Dankers, professor, Agricultural Extension Service, summer 1963, to study the development and progress of the European Economic Community which is referred to as the "Common Market" and the European Free Trade Association which is referred to as "The Outer Seven Countries."
- Willis E. Dugan, professor of educational psychology, winter quarter, for special study of graduate level programs of counselor education in selected states and universities with particular emphasis on newly developed programs of supervised counseling practicum.
- Ruth E. Eckert, professor of higher education, spring quarter, to visit universities in Western Europe and revise the manuscript for an interpretative study of American higher education.
- Henry J. Ehlers, professor of philosophy, University of Minnesota at Duluth, spring quarter, for studies in logic and semantics.
- Laddie J. Elling, associate professor of agronomy and plant genetics, winter quarter, for a refresher study in plant breeding and statistics at Oregon State University.
- William Fleeson, associate professor of psychiatry, spring quarter, to participate in the Advanced Management Program of the Harvard Graduate School of Business Administration. (Canceled.)
- Richard J. Foster, associate professor of English, winter quarter, to work on a book dealing with "selfhood" as a major theme in contemporary English and American literature.
- S. Gasiorowicz, associate professor of physics, spring quarter, to study at the Niels Bohr Institute of Theoretical Physics in Copenhagen, Denmark, on the interrelation between symmetries and dynamics.
- Bernard R. Gelbaum, professor of mathematics, spring quarter, for further study of Banach algebras.
- John C. Green, assistant professor of geology, University of Minnesota at Duluth, fall quarter, for petrologic research and writing.

- Edward Gross, professor of sociology, spring quarter, to carry out a study on the sociology of academic administration.
- Franz Halberg, professor of experimental pathology, summer 1964, for study and research in Europe.
- C. G. Hard, associate professor, Agricultural Extension Service, spring quarter, to study the production of nursery crops in short-season climates.
- W. Reid Hastie, professor of art education, spring quarter, to complete writing and editorial responsibilities for a Yearbook on Art Education.
- Norton M. Hintz, professor of physics, spring quarter, to study recent developments in nuclear structure theory at the Institute for Theoretical Physics, Copenhagen, Denmark, and the Institute for Atomic Energy of the Polish Academy of Science, Warsaw, Poland.
- Clifford P. Hooker, professor of educational administration, winter quarter, for study of education in India. (Canceled.)
- John D. Hurrell, associate professor of English, fall quarter, to write a book on the relationship between theme and form in dramatic literature.
- Elden Johnson, associate professor of anthropology, winter quarter, for an archaeological field survey in West Pakistan.
- Harry C. Johnson, professor of elementary education, University of Minnesota at Duluth, spring quarter, to study content and methodology of presentation in the new program of modern mathematics for elementary and secondary schools.
- John A. Johnson, professor of physiology, winter quarter, to study possible applications of irreversible thermodynamics to transport phenomena in the heart.
- Herbert Jonas, associate professor, College of Pharmacy, spring quarter, for study of quantitative methods in chemical pharmacognosy, plant collections in European medicinal plant gardens, graduate seminars in pharmacognosy.
- Stanley V. Kinyon, professor, Law School, spring quarter, to develop new approach, techniques and classroom materials for teaching commercial law.
- Robert F. Lambert, professor of electrical engineering, spring quarter, to study the influence of environmental noise on the performance of communication systems at the Third Physical Institute of the University, Gottingen, Germany.
- Arthur J. Larsen, associate professor of history, University of Minnesota at Duluth, winter quarter, to prepare a history of the Great Lakes-St. Lawrence Tidewater Association.
- Donald B. Lawrence, professor of botany, fall quarter, to study the mechanics of accumulation of nitrogen in organisms and soil in the early stages of vegetation development following glacier recession.
- M. Harry Lease, Jr., assistant professor of political science, University of Minnesota at Duluth, spring quarter, to prepare for publication, *William Howard Taft and the Powers of the President*.
- Lewis D. Levang, associate professor of English, University of Minnesota at Duluth, spring quarter, to complete a long essay on the poetry of Andrew Marvell.
- Jacob C. Levenson, professor of English, spring quarter, to complete research and write findings on "Robert Frost and Pragmatism."
- Jerome Liebling, associate professor of art, fall quarter, to continue studies in creative photography.
- Rufus W. Lumry, professor of chemistry, spring quarter, for research on the fundamental mechanisms of hemoglobin function.
- Edward J. Meehan, professor of analytical chemistry, spring quarter, to visit laboratories in Europe and England.
- R. Dale Miller, professor of humanities, University of Minnesota at Duluth, fall quarter, to make an extended study of sculpture and architecture in which the concentration will be on two widely separated periods, the Greek and the Gothic.
- Albert J. Moscovitz, assistant professor of chemistry, fall quarter, for research in asymmetric syntheses of organic compounds.
- Paul L. Murphy, associate professor of history, fall quarter, for a complete study of "The Meaning of Freedom of Speech in the U.S., 1919-1933."

- Roger B. Page, associate professor, CLA Administration, spring quarter, to gain a better understanding of undergraduate education, particularly in this college and this University by reading and by observation-participation.
- Robert A. Plunkett, professor of mechanics, spring quarter, for a liaison with French teachers and investigators in vibration theory.
- Johannes Riedel, professor of music, spring quarter, for study of music and society.
- Alois R. Schmid, associate professor of agronomy and plant genetics, summer 1963, for refresher study in pasture and forage research methods at the Grassland Research Institute at Hurley, England and Experiment Stations in the British Isles and Europe.
- John M. Sivertsen, associate professor of metallurgy, winter quarter, for research on the electronic structure of alloys of transition metal solutes in noble metal solvents.
- Harlan M. Smith, associate professor of economics, fall quarter, for ethics-economics study.
- Burton Stein, associate professor of history, winter quarter, to complete the manuscript entitled, *The Transformation of South Indian Peasant Institutions in the 19th Century*.
- Eugene Stolarik, associate professor of aeronautics and engineering mechanics, fall quarter, to study the effects of surface irregularities on hypersonic aerodynamic heating at European universities and laboratories.
- Allen Tate, professor of English, fall quarter, to finish a long work in verse and also finish a short book on Edgar Allen Poe.
- D. Burnham Terrell, associate professor of philosophy, spring quarter, to study Franz Brentano's unpublished manuscripts. (Canceled.)
- Albert Tezla, professor of English, University of Minnesota at Duluth, winter quarter, for research leading to the following publication: *An introductory bibliography to the study of Hungarian authors*.
- Walter K. Vivrett, professor of architecture, fall quarter, for study of housing in European countries with special emphasis upon housing and institutional facilities for the aged.
- Cecil J. Watson, Distinguished Service Professor of medicine, fall quarter, to work on a book on bile pigments and porphyrins in medicine.
- Kenneth T. Whitby, associate professor of mechanical engineering, fall quarter, for study of environmental engineering at Harvard University.
- Frank M. Whiting, professor of speech and theatre arts, fall quarter, to visit other members of the Ford Foundation's Theatre Communication Group. (Canceled.)
- Roy D. Wilcoxson, associate professor of plant pathology and botany, fall quarter, to gain mastery of advanced techniques for studying plant viruses.
- John B. Wolf, professor of history, fall quarter, to do research at the Archives Nationales in France for a book on Louis XIV.

DEATHS, 1962-64

With deep regret and a profound sense of personal loss, the following deaths are recorded during the biennium:

- Orrin W. Potter, professor emeritus mechanical engineering, July 4, 1962.
- John M. Waugh, professor of surgery, Mayo Foundation, August 11, 1962.
- Darrel H. Davis, professor emeritus geography, September 3, 1962.
- Helen Parker Mudgett, associate professor of intercultural education, Extension Division, September 11, 1962.
- Herbert M. Bosch, professor, School of Public Health, September 16, 1962.
- Harvey G. Rogers, lecturer, School of Public Health, September 18, 1962.
- Johanna T. Hognason, assistant professor emeritus, School of Agriculture, September 30, 1962.
- Frank C. Mann, professor emeritus experimental surgery, Mayo Foundation, September 30, 1962.
- Louis W. Rees, professor, School of Forestry, November 10, 1962.

- Richard W. P. Achor, assistant professor of medicine, Mayo Foundation, November 26, 1962.
- Harry B. Roe, professor emeritus agricultural engineering, November 27, 1962.
- Elizabeth M. Atkins, assistant professor emeritus English, December 19, 1962.
- Guy Stanton Ford, president emeritus University of Minnesota, December 29, 1962.
- John M. Bryant, professor emeritus electrical engineering, December 29, 1962.
- Samuel B. Solhaug, Sr., clinical assistant professor emeritus obstetrics and gynecology, January 5, 1963.
- Charles R. Drake, clinical instructor emeritus medicine, January 10, 1963.
- Jean F. Piccard, professor emeritus aeronautical engineering, January 28, 1963.
- Theodore A. Erickson, associate professor emeritus Agricultural Extension, January 30, 1963.
- John F. Noble, professor emeritus pathology, February 3, 1963.
- Monte C. Piper, assistant professor emeritus medicine, Mayo Foundation, February 15, 1963.
- Leon E. Arnal, professor emeritus, School of Architecture, February 23, 1963.
- Charles F. Shoop, professor emeritus mechanical engineering, February 24, 1963.
- Arthur N. Wilcox, professor of horticulture, February 26, 1963.
- Richard R. Price, professor-director emeritus General Extension Division, March 5, 1963.
- Wendell L. Bartholdi, professor, School of Dentistry, March 21, 1963.
- Theodore H. Fenske, associate dean and professor, Institute of Agriculture, March 28, 1963.
- Phillip A. Anderson, associate professor emeritus animal husbandry, March 30, 1963.
- Robert T. Jones, professor emeritus School of Architecture, March 31, 1963.
- Harry J. Ostlund, associate professor emeritus School of Business Administration, April 6, 1963.
- Mary E. Bowne, associate professor of physical education for women, University of Minnesota at Duluth, May 6, 1963.
- Richard A. Graves, assistant professor emeritus School of Business Administration, May 29, 1963.
- Walter A. Fansler, clinical professor emeritus surgery (proctology) May 30, 1963.
- Henry L. Ulrich, clinical professor emeritus medicine, June 9, 1963.
- Edward P. Burch, clinical assistant professor of ophthalmology, June 12, 1963.
- Charles H. Rogers, dean emeritus College of Pharmacy, June 16, 1963.
- Ernest T. F. Richards, clinical associate professor emeritus medicine, June 16, 1963.
- Mervin G. Neale, professor emeritus College of Education, June 26, 1963.
- Edward M. Kane, instructor emeritus history, General Extension Division, July 6, 1963.
- Donald Church Balfour, professor of surgery and director emeritus Mayo Foundation, July 25, 1963.
- Joseph T. Cohen, clinical associate professor emeritus pediatrics, August 21, 1963.
- Paul S. Hagen, professor of medicine, September 2, 1963.
- Walter W. Cook, dean and professor, College of Education, September 9, 1963.
- Ephraim Rosen, professor of psychology, September 16, 1963.
- Elexious T. Bell, professor emeritus pathology, September 16, 1963.
- Herman E. Hoche, instructor hospital administration, School of Public Health, September 21, 1963.
- Howard M. Odel, associate professor emeritus medicine, Mayo Foundation, September 22, 1963.
- Edward H. Sirich, professor emeritus romance languages, September 22, 1963.
- Harold E. Hullsiek, clinical associate professor emeritus proctology, September 27, 1963.
- William A. Riley, professor emeritus entomology and economic zoology, October 2, 1963.
- Gerald B. Fitzgerald, lecturer in recreational leadership, School of Physical Education, October 3, 1963.

- John J. Bohrer, clinical associate professor of medicine, October 4, 1963.
Frank M. Rarig, professor emeritus speech, October 19, 1963.
Harold R. Leland, clinical instructor obstetrics and gynecology, October 20, 1963.
Bert A. Crowder, assistant professor emeritus mechanical engineering, October 23, 1963.
Lorenz G. Straub, professor and head of civil engineering and director of St. Anthony Falls Hydraulic Laboratory, October 27, 1963.
Roy C. Jones, professor emeritus School of Architecture, October 29, 1963.
Roy E. Swanson, clinical assistant professor of obstetrics and gynecology, November 15, 1963.
Clement H. Griffith, assistant professor, North Central School and Experiment Station, November 17, 1963.
Charles Sheard, professor emeritus experimental biophysics, Mayo Foundation, November 18, 1963.
George H. Nesom, assistant professor emeritus Agricultural Extension, November 29, 1963.
Frederick C. Rodda, clinical professor emeritus pediatrics, December 10, 1963.
William E. Brooke, professor emeritus department of mathematics and mechanics, Institute of Technology, December 22, 1963.
Gordon E. Strate, clinical instructor in ophthalmology, December 24, 1963.
Walter A. Carley, clinical assistant professor of psychiatry and neurology, December 26, 1963.
Anna von Helmholtz Phelan, assistant professor emeritus English, January 10, 1964.
Robert P. Gage, associate professor biometry and medical statistics, Mayo Foundation, January 13, 1964.
Arthur U. Desjardins, professor emeritus radiology, Mayo Foundation, January 15, 1964.
Newell R. Ziegler, associate professor laboratory medicine, January 20, 1964.
Ned L. Huff, assistant professor emeritus botany, January 22, 1964.
Muriel B. Carr, assistant professor emeritus English, February 3, 1964.
Samuel E. Sweitzer, professor emeritus dermatology, February 14, 1964.
William H. Crawford, professor, School of Dentistry, February 20, 1964.
Charles F. Morgan, professor of anatomy, March 10, 1964.
Albert C. Broders, professor emeritus pathology, Mayo Foundation, March 27, 1964.
William E. Morris, professor emeritus Agricultural Extension, animal husbandman, May 12, 1964.
William C. MacCarty, professor emeritus pathology, Mayo Foundation, May 17, 1964.
Marbury B. Ogle, professor emeritus classics, May 25, 1964.
Thomas A. Peppard, clinical associate professor emeritus medicine, May 25, 1964.
Harold F. Flanagan, clinical assistant professor pediatrics, May 30, 1964.
Rolla I. Stewart, clinical instructor emeritus surgery, June 8, 1964.
Henry C. T. Eggers, professor emeritus mechanical engineering, June 17, 1964.
Herbert A. Carlson, clinical associate professor School of Dentistry, June 18, 1964.
Jonas J. Christensen, professor emeritus plant pathology and botany, June 20, 1964.
Ruth Raymond, professor emeritus art education, June 24, 1964.
Loyst C. Caverley, professor of electrical engineering, June 30, 1964.

HONORS AND DISTINCTIONS

ADMINISTRATION

O. MEREDITH WILSON served as honorary vice president, Minnesota Tuberculosis and Health Association; member, Board of Trustees, Minneapolis Society of Fine Arts; member, Minnesota Poll's Advisory Council; chairman of the board, North Star Research and Development Council; member, Liaison Committee on Higher Education, State of Minnesota; member, Educational

Policies Committee, National Education Association; chairman, Special Committee on the Council of International Activities, and chairman, Commission on Plans and Objectives in Higher Education, American Council on Education; member, Executive Committee, Carnegie Foundation for Advancement of Teaching; member, Board of Directors, Center for Advanced Study in the Behavioral Sciences; member, Council on Higher Education in the American Republics, and chairman, Board of Trustees, Institute of International Education; trustee, Committee for Economic Development; member, Defensive Advisory Committee on Education in the Armed Forces, United States Department of Defense; member, Board of Trustees, Teachers Insurance and Annuity Association of America; member, Board of Trustees, National Opinion Research Center, University of Chicago; member, United States National Commission, United Nations Educational, Scientific and Cultural Organization; and member, Board of Directors, Northwestern National Bank of Minneapolis; and received the Marshman S. Wattson Memorial Plaque for Outstanding Contributions to Civil Liberties in Minnesota, Minnesota Civil Liberties Union; and was awarded the honorary degree Doctor of Laws by the University of North Dakota.

DIVISIONS OF ACADEMIC ADMINISTRATION

WILLIAM G. SHEPHERD served as member, Awards Committee, and director, Institute of Radio Engineers; member, State Committee on Industry, State of Minnesota; chairman, Electronic Devices Advisory Group, Department of Defense; chairman, Awards Board, and member, Board of Directors, Institute of Electrical and Electronics Engineers; member, Board of Directors, and member, Executive Committee, North Star Research and Development Institute; member, Board of Directors, Walker Art Center; and chairman, Commission VII, XIV General Assembly in Tokyo, and president, Union Radio Scientific International.

MALCOLM M. WILLEY served as member, Board, and chairman, Committee on the Social Sciences, National Science Foundation; member, Board of Directors, Social Science Research Council; director, Midwest Inter-Library Center; director, Walker Art Center; and Ford Foundation educational consultant to the vice-chancellor, University of Calcutta.

Institute of Agriculture

Administration

JAMES L. APP served as member, Publicity Committee, American Farm Economy Association.

Department of Information and Agricultural Journalism

GERALD R. MCKAY served as member, Planning Committee, Regional Meeting, American Association of Agriculture College Education.

HARLAN R. STOEHR served as chairman, Editorial Committee, Minnesota Feed Service; and member, Publication Committee, and managing editor, *Minnesota Farm and Home Science*, Minnesota Agricultural Experiment Station; and received an "Excellent" rating, Radio Services, and an "Excellent" and "Good" rating, Publications, American Association of Agriculture College Editors.

HAROLD B. SWANSON served as member, Information Advisory Committee, United States Department of Agriculture; member, Planning Committee, Regional Workshops, American Association of Agriculture College Editors; and conductor, Committee Workshop, Manitoba Department of Agriculture.

PHILLIP J. TICHENOR served as chairman, Research Committee, American Association of Agriculture College Editors.

College of Agriculture, Forestry, and Home Economics

PAUL S. ANDERSON served as discussant and representative of College Placement Directors Theme of Remarks, North Central Personnel Conference, Agricultural Research Service; and secretary and reporter, Committee B, Industry Perception of Recruitment Needs, Agri-Business Personnel Conference, College of Agriculture, University of Nebraska.

KEITH N. MCFARLAND served as secretary and chairman, Resident Instruction Section, Division of Agriculture, and member, Workshop and Planning Committee, Research Instruction Section, Association of State Universities and Land Grant Colleges; and speaker at workshop, National Association of Colleges and Teachers of Agriculture.

RALPH E. MILLER served as member, Board of Directors, American Institute of Parliamentarians; and received the Honorary State Farmer Award from Future Farmers of America.

Department of Agricultural Economics

MARGUERITE C. BURK served as member, Regional Committees, Cooperative State Experiment Stations; member, Executive Committee, Annual Conference, Council on Consumer Information; member, Arrangement Committee, Annual Conference, American Farm Economics Association; member, Committee on Economic Status of Profession, American Association of University Professors; and consultant and member, Review Committee, Home Economics Research, University of Missouri, Cooperative State Experiment and Station Service; and received a travel grant to the International Agriculture Economics Meeting from the National Science Foundation and American Farm Economics Association.

DALE C. DAHL served as local treasurer, Minnesota Meeting, and Minnesota representative, Bemidji Teaching Workshop, American Farm Economics Association.

REYNOLD P. DAHL served as economic consultant on the Common Market, Soybean Council of America, Brussels and Belgium; secretary-treasurer, Alpha Zeta; and member, Board of Directors, Minnesota Graduate Club.

SELMER A. ENGEL was elected a Fellow by the American Association for the Advancement of Science.

DARRELL F. FIENUP served as chairman, Research Committee, North Central Livestock Marketing, member, North Central Market Structure Committee, and member, Planning Committee, National Research Workshop on Cattle Feeding, Experiment Stations, United States Department of Agriculture; and member, North Central Marketing Committee, Experiment Stations, United States Department of Agriculture and Farm Foundation.

CARROLL V. HESS served as president, Westminster Foundation; president, Minnesota Chapter, Gamma Sigma Delta; research chairman, Regional Poultry Marketing, North Central Marketing Project 31; executive faculty adviser, and member, State Strategy Committee, United Campus Christian Fellowship; and chairman, Student Actions Committee, and chairman, Arrangements Committee for Workshop on Teaching, American Farm Economics Association.

HARALD R. JENSEN served as member, Editorial Council, *Journal of Farm Economics*, American Farm Economics Association; chairman, Regional Research Project, Central State, Farm Foundation; and participant, Planning Conference for economics research on sugar beets, University of California and Western Regional Committee.

E. FRED KOLLER served as secretary and program chairman, Midwest Milk Marketing Association, Midwest Dairy Institute; economist, North East Milk Marketing Hearings, United States Department of Agriculture and the Dairy Board; chairman, Employment Committee, American Farm Economics Association; and member, Governor's Advisory Committee on Dairy Research

and Marketing, and consultant, Legislative Research Committee, Minnesota Legislature, State of Minnesota.

ELMER W. LEARN served as consultant, Research on Common Market, Economic Research Service and United States Department of Agriculture; member, Program Planning, Minneapolis Farm Forum, Minneapolis Chamber of Commerce; author and consultant, Common Market Statement, Agricultural Committee, National Planning Association; University representative, Common Market Research Committee, discussant, International Symposium on Food and Agriculture, and member, Secretary's Advisory Committee on Wheat and Feed Grains, United States Department of Agriculture; member, Governor's Advisory Committee on Migratory Labor, State of Minnesota; discussant, Conference on France and the Atlantic Community, Ohio State University; participant, United States Policy Toward the Common Market, Universities of Illinois, Michigan, Wisconsin and Minnesota and the Johnson Foundation; and member, North Central Administrative-12 Administrative Committee, North Central Region, and member and secretary, North Central Marketing Project-33, Regional Research Committee on Common Market Problems, United States Department of Agriculture and North Central Universities.

TRUMAN R. NODLAND served as member and secretary, Regional Conference, United States Department of Health.

PHILLIP M. RAUP served as member, Committee on Highway Improvement, United States Department of Commerce; member, Editorial Board, *Journal of Land Economy*, University of Wisconsin; member, Committee on Agriculture Economy, Social Science Research Council; United States observer, European Committee on Agriculture (Spain), United States Department of Agriculture and Food and Agriculture Organization, United Nations; guest professor, Institute of Foreign Agriculture, Technical University of Berlin; member, Motorist Service Committee, Minnesota Department of Highways; committee chairman, Seminar on Agricultural Development, Agricultural Development Council, Incorporated; consultant, Bank of Libya; and member, Latin America Faculty Exchange Committee, Central America.

Department of Agricultural Engineering

EVAN R. ALLRED served as planner and participant, Symposium, Poultry Waste Meeting; member, Soil Compaction Committee, member, Committee on Course Content and Curricula, and member, Committee on Humid Area Irrigation Practices, American Society of Agricultural Engineers; and adviser, Plumb Bob Society.

ANDREW HUSTRULID served as member, Nature and Problem of Science, Department of Education; member, Graduate Instruction Committee, member, Instrumentation Committee, member, Steering Committee, Education and Research Division, and member, Papers Awards Committee, American Society of Agricultural Engineers; and member, Industrial-Educational Conference, Minnesota Academy of Sciences.

PHILIP W. MANSON served as member, Drain Tile Committee, member, Standards Committee, and member, Drainage Materials and Drainage Handling, American Society of Agricultural Engineers; member, Regional Research Committee, NCT-57 Regional Research Project; chairman, Committee C 13, and member, Committee C 15, American Society for Testing and Materials; speaker and member, Technical Problems Subcommittee, American Concrete Pipe Association; member, Supervisory Committee, Soil and Water Conservation; and member, Committee, La Crosse Station of Technology, University of Wisconsin and Agricultural Research Service; and received the Distinguished Award from Soil and Water Conservation.

WILLIAM L. OLSON served as chairman, Publicity Committee, Minnesota Vocational Agriculture Association.

CHARLES K. OTIS served as member, Technical Committees, Materials Handling Research, Swine Environment Research, Form Structures Research,

and Midwest Planning Service, United States Department of Agriculture and Land Grant Universities.

JESSE H. POMROY served as member, Farm Materials Handling Committee, American Society of Agricultural Engineers.

ARNOLD K. SOLSTAD served as professor, Escuela Agricola Panamericana, Honduras.

JOHN STRAIT served as collaborator, Weed Control Research, United States Department of Agriculture; and member, Committees on Hay Pelleting and Cultural Practices Equipment, and alternate director, Minnesota Federation of Engineering Societies, American Society of Agricultural Engineers.

LEWIS C. TAYLOR served as member, Farm Machinery Committee, Farm Safety Section, National Safety Council; member, Planning Committee, Exploratory Seminar, Center for Better Farm Living; and member, Exhibits Committee, Minnesota Vocational Association.

Department of Agronomy and Plant Genetics

RICHARD BEHRENS served as member, Terminology Committee, chairman, Subcommittee on Abbreviations, Terms, and Definitions, member, Executive Committee, and member, Subcommittee, Weed Society of America; member, Research Committee, Faculty Association of Natural Science; and chairman, NC-61 Regional Research Committee, United States Department of Agriculture; and received an Outstanding Achievement Award as co-author of the best paper published in *Weeds* from the Weed Society of America.

CARL BORGESON served as member, Seedstocks Committee, and member, Pathological Committee, International Crop Improvement Association; participant, Wheat Quality, and participant, Hybrid Wheat, Crop Quality Council; member, Planning Committee, Seed Short Course, arranger and lecturer, India Peace Corps Program, participant, Special Course in Seed Improvement, and arranger and lecturer, Peace Corps in Pakistan Program, United States Government and University of Minnesota; and participant, Summer and Winter Meetings, Minnesota Seed Dealers.

CHARLES R. BURNHAM served as visiting professor, Purdue University; planner, Barley Geneticists Conference, United States Department of Agriculture; co-chairman and participant, Xth International Genetics Congress, Genetics Society of America; and participant, 1964 Conference of Maize Geneticists, Corn Genetics Cooperative.

LADDIE J. ELLING served as chairman, Nomination Committee, Division C-IV, Crop Science Society of America.

JEAN W. LAMBERT served as program participant, Annual Meeting, American Soybean Association; and program participant, Annual Meeting, National Soybean Processors; and received a fellowship from the American Society of Agronomy.

DONALD C. RASMUSSEN served as participant, International Genetics Congress, Genetics Society of America; and participant, International Barley Geneticists Conference, United States Department of Agriculture.

ERNEST H. RINKE served as consultant, Italian Seed Firm; participant, Research Roundtable, American Institute of Potash; participant, International Maize Conference, Food and Agriculture Organization-Eucarpia; agricultural visitor, Government of Roumania; and participant, International Genetics Congress, Genetics Society of America; and was made a Fellow of Gamma Sigma Delta and of the American Association for the Advancement of Science.

ROBERT G. ROBINSON served as member, Membership Committee, American Society of Agronomy.

HORACE L. THOMAS served as participant, North Central Region Forage Breeding, United States Department of Agriculture and Agricultural Colleges in North Central Region; and received a Special Service Award from The Soil Conservation Society of America.

Department of Animal Husbandry

RALPH E. COMSTOCK served as visiting professor of Genetics, University of California at Davis; program director, Genetics Training Program, and member, Review Panel, Special Site Visit, National Institutes of Health; member, Review Committee on Genetics, American Institute of Biological Sciences; and member, Review Panel for Evaluating National Science Foundation Fellow Candidates, National Academy of Sciences.

FRANKLIN D. ENFIELD served as member, Technical Committee, Beef Cattle Breeding, and collaborator, Regional Swine Breeding Lab Reviewer, *Genetics Journal*, United States Department of Agriculture.

LESTER E. HANSON served as president and director, American Society of Animal Science; and member, Animal Nutrition Committee, National Research Council; and was named Distinguished Nutritionist by the Distillers Research Council.

ALFRED L. HARVEY served as leader and host, Minnesota Livestock Feeders and Breeders People-to-People Travel Delegation to South America; and chairman, Committee, American Society of Animal Science; and was elected to the Livestock Hall of Fame by the Minnesota Livestock Breeders.

ROBERT M. JORDAN served as superintendent, Sheep Show, member, Livestock Judging Short Course, and participant, Future Farmers of America Livestock Judging Contest, Minnesota State Fair; and vice president, and member, Board of Directors, Ramsey County Historical Society.

ROBERT J. MEADE served as secretary-treasurer, Midwest Section, member, Research Committee, and member, Nutrition Committee, American Society of Animal Science.

WILLIAM E. REMPEL served as president, Minnesota Branch of the University of Manitoba Alumni Branch; and invited speaker, First Swine Congress (Bogota, Colombia), United States Feed and Grain Council, American Soybean Council, and Colombia Swine Congress.

JOSEPH V. SCALETTI served as faculty adviser, Gamma Alpha; and member, Nitrate Toxicity, Cornell Conference, Cornell University.

Department of Biochemistry (Agricultural)

LAVELL M. HENDERSON served as member, Interdepartment Committee on Nutrition for National Defense, State Department of Health, Education, and Welfare and Department of Defense.

ROBERT JENNESS served as member, Frasch Foundation Award Committee.

WALTER O. LUNDBERG served as member, Advisory Committee, Food Stability and Research Development, United States Army; member, Council, American Heart Association; member, Review Panel to Grant Applications, National Science Foundation; first lecturer, first Oils and Fats Group International Lecture, Society of Chemical Industry, London, England; representative of American Chemical Society, Food Protection Committee, National Academy of Sciences; director, Minnesota Academy of Sciences; and president, American Oil Chemistry Society.

HERMANN SCHLENK served as member, Biological Chemistry Committee, National Academy of Sciences; and chairman, Lipids Subcommittee, National Research Council.

MAX O. SCHULTZE served as faculty representative, Intercollegiate Athletics.

FRED SMITH received the C. S. Hudson Award from the American Chemical Society.

Department of Dairy Husbandry

CLARENCE L. COLE served as member, Committee, American Dairy Science Association.

JOHN D. DONKER served as participant, Hay Wafering Seminar, Massey-Ferguson Limited; and member, Resolutions Committee, American Dairy Science Association.

JESSE B. WILLIAMS served as president, Alpha Zeta; and received a Service Award from the Girl Scouts of America; and was elected a Fellow of the American Association for the Advancement of Science.

CHARLES W. YOUNG served as member, Advisory Group, Executive Committee, chairman, Development Committee, and secretary, Annual Meeting, NC-2 Region, Agricultural Research Service; and representative, NC-2 Region, National Meeting, Interim Committee on Milk Composition.

Department of Dairy Industries

SAMUEL T. COULTER served as director, vice president, and president, American Dairy Science Association; director, Research and Development Food and Container Institute; and member, Governor's Committee on Milk Industry with Relation to Iodine 131, and member, Governor's Advisory Committee on Dairy Product and Dairy Marketing Research.

JAMES J. JEZESKI served as member, Interviewing Board, Civil Service of Minnesota; member, Lab Procedures Committee, International Association of Milk and Food Sanitation; technical adviser, Quality Control Committee; adviser, Cheese Industry Association; and member, Dairy Products Examination, and author, Subcommittee, American Public Health Association.

HOWARD A. MORRIS served as secretary and adviser, Minnesota Cheese Industry Association; and president, Board, Alpha Zeta.

JOSEPH C. OLSON, JR. served as president, Minnesota Sanitation Association; consultant, Conference on Undergraduate Education for Sanitation, National Association of Sanitarians; consultant, Advisory Committee on Milk Ordinance and Code, Minnesota Milk Council; member, Quality Control Committee; Minneapolis and St. Paul Association; editor, *Journal*, and member, Food Technical Education Board, International Association of Milk and Food Sanitation; and member, International Relations Committee, and member, Advisory Committee to Dairy Society International, American Dairy Science Association.

ELMER L. THOMAS served as president, and chairman, Membership Committee, Minnesota Dairy Technology Society; section chairman, Dairy Products Institute, Department of Agriculture and University of Minnesota; chairman, Milk Judging Contest, Future Farmers of America; member, University Advisory Committee, Ice Cream Manufacturers Association; member, Program Committee, member, Nominating Committee, section chairman, judge, Dairy Products, and faculty adviser, Dairy Science Club of Minnesota, American Dairy Science Association.

Department of Entomology and Economic Zoology

JAMES R. BEER served as chairman, Editorial Committee, and editor, *Journal of Mammalogy*, American Society of Mammalogists.

HUAI C. CHIANG served as chairman, Committee, Entomological Society of America.

ALEXANDER C. HODSON served as chairman, Committee, Ecological Society of America; and was elected a Fellow of the American Association for the Advancement of Science.

NARAYAN G. PAEL received a Postdoctoral Fellowship from the National Science Foundation.

ALLAN G. PETERSON served as member, Committee on Insect Migration, Cereal Leaf Beetle Regulation Project, Federal State Experiment Station.

A. GLENN RICHARDS served as member, Lab Instruction Committee, American Institute of Biological Sciences; member, Advisory Committee, Science

Mathematics Curriculum Project; chairman, Agricultural Chemical Symposium, Gordon Conference; and member, Executive Committee, and program officer, American Society of Zoologists.

LLOYD L. SMITH served as member, Advisory Committee, Aquatic Life, Ohio Sanitation Committee; member, Advisory Committee, International Joint Committee; consultant, United States Public Health Service; consultant, D-19 Committee, American Society of Testing and Materials; and collaborator, Wildlife Service.

Agricultural Extension Service

R. WAYNE BATH served as member, National 4-H Conference Advisory Committee, Federal Extension Service, United States Department of Agriculture; and received a National Agricultural Extension Center Advanced Study Fellowship from the University of Wisconsin.

EDWARD J. BECKER served as executive secretary, Rural and Area Development, 50 Agencies.

ROBERT W. BERG served as chairman, National Turkey Federal Research Awards Committee, Poultry Science Association; member, Committee, chairman, Egg Cooking Contest, and chairman, State Fair Committee, Poultry Industry Council; and chairman, Youth Awards Committee, speaker, Annual Meeting, and member, Turkey Research Committee, Minnesota Turkey Growers Association; and received the Ranelius Award from the Minnesota Turkey Growers Association.

EARL S. BERGERUD served as delegate, Conference on Problems of Rural Youth at Oklahoma, National Committee for Children and Youth; and participant and planner, Governor's Conference on Children and Youth, State of Minnesota.

GRACE D. BRILL served as participant, Sixth International Congress of Nutrition (Edinburgh, Scotland).

WILLIAM H. DANKERS received a National Superior Service Award from the United States Department of Agriculture

CAROLINE M. FREDRICKSON served as member, Planning Committee, Conference on Working with Socio-Economic Disadvantages. Minnesota Home Economics Association.

LAVERN A. FREEH served as chairman, Region Short Course Workshop, National Short Course Committee; and participant, Meeting, Resident Instruction Committee on Policies, Resident Instruction Section, Land Grant Colleges and Universities.

CLIFTON F. HALSEY served as member, State Defense Board, United States Department of Agriculture.

LOWELL D. HANSON served as teacher, Training Program in India and Pakistan, Peace Corps.

C. GUSTAV HARD served as assistant editor, *Minnesota Horticulturist*; and educational programmer, Minnesota Landscape Arboretum.

LEONARD L. HARKNESS served as member, Leadership Development Committee, National 4-H; member, International Farm Youth Exchange Advisory Committee, National 4-H Foundation; and chairman, Headquarters Committee, National 4-H Club Congress.

EVELYN D. HARNE served as chairman, Youthpower Advisory Committee, Various Food Industries.

PAUL R. HASBARGEN served as discussant, Mail-In Accounting, and member, North Central Farm Management Extension Committee, Farm Foundation and Federal Extension Service.

HERBERT G. JOHNSON served as member, North Central Region Extension Plant Pathology Workshop, Minnesota Agricultural Extension Service; and

member, Board of Directors, Minnesota Agricultural Chemicals Association, Agricultural Chemicals Industry.

EDNA K. JORDAHL served as Minnesota Representative, National Outlook Conference; joint writer, Home Management, States of Nebraska and South Dakota; and resource person, Time Management, South Dakota Home Agent Training.

MARIAN O. LARSON served as member, Uniform and Supply Committee, Federal Extension Service; and member, Interstate 4-H Staff Conference Committee, 6 States.

CHARLES W. MARTIN served as consultant, National Rural Family Records Seminar, Thor Research Center.

GLENN T. MCCLEARY served as participant, Middle Management School, United States Department of Agriculture.

MARION MELROSE served as member, Joint Committee on Rehabilitation, American Home Economics Association and American Dietetics Association; planner, Conference on Rehabilitation, Vocational Rehabilitation Administration and American Home Economics Association; and evaluator and planner, Interdisciplinary Advisory Committee, Colorado State University.

VERNA A. MIKESH served as program chairman and president elect, Minnesota State Nutrition Council; president, Epsilon Sigma Phi; member, Legislation Committee, St. Paul Business and Professional Womens' Association; and legislative chairman, Minnesota Home Economics Association.

WILLIAM R. MILES served as member, Executive Committee, Minnesota Conservation Education Committee, Minnesota Educational Association and Society of American Foresters; member, Policy Committee, and secretary-treasurer, South Minnesota Chapter, Society of American Foresters; member, Tree Farm Committee, and participant and member, Field Days Committee, Keep Minnesota Green; and member, Agricultural Stabilization Conservation Service Program, Agricultural Conservation Program.

MARY L. MULLER served as vice president, Minnesota Elect Women; representative of University of Minnesota, Minnesota Rural Electrification Council; participant, Minnesota Conference, Land Grant Housing; and participant, National Housing Conference, Federal Extension Service.

JOSEPHINE B. NELSON served as secretary, and chairman, Public Relations Committee, Minnesota Nutrition Council; member, Advisory Board, Minnesota Council on Family Life; and correspondence secretary and editor of newsletter, National League of American Pen Women; and received "Excellent" ratings for Press and Radio Service from the American Association of Agriculture College Editors; and two Awards of Merit from the National Safety Council.

IRVIN T. OMTVEBT served as member, Extension Program Committee, and member, Swine Improvement Committee, American Society of Animal Science.

HARLEY J. OTTO served as member, Public Relations, Weed Society of America; member, Education Committee, member, Corn Committee, member, Soybean Committee, member, Meeting Place Committee, member, General Certification Committee, and Minnesota director, International Crop Improvement; member, Executive Committee, member, Publicity Committee, and member, Board of Directors, Minnesota Crop Improvement; member, Resolutions Committee, North Central Weed Control Conference; and Honorary President and member, Herbicide Committee, Minnesota Agriculture Chemical Association.

CURTIS J. OVERDAHL served as Honorary Member, Cabinet, Minnesota Plant Food Association.

VERNAL S. PACKARD served as chairman, Publicity Committee, Minnesota Dairy Technology Society.

HAROLD C. PEDERSON served as program chairman, Four State Conference, Extension Services; and program chairman, Annual Meeting, Minnesota

Chapter, American Chapter of Soil Conservation; and received an honorary life membership in the Minnesota Federal County Fair.

GLENN I. PRICKETT served as address and resource person, Farm Safety Planning Committee, South Dakota Safety Council; and program chairman, National Institute of Farm Safety, and addresser and workshop participation, North Central Regional Conference on Farm Safety, Farm Department, National Safety Council.

ROSELLA H. QUALEY served as treasurer, Minnesota Home Economics Association; and chairman, Minnesota Farm and Home Safety.

HARLUND G. ROUTHE served as member, Planning Committee, North Central Farm Management Extension Committee, Farm Foundation; and member, Planning Committee, and editor, Proceedings, North Central Farm Management Workshop, Farm Foundation and North Central Extension Division.

FRANCIS J. SMITH, JR. served as member, Planning Committee, Annual Meeting, American Farm Economics Association.

MARVIN E. SMITH served as member, Field Day Committee, and chairman, Education and Program Committee, Keep Minnesota Green; member, Communications Committee, and chairman, Publicity Committee, Minnesota Section, Society of American Foresters; participant, Farm Forestry Council, Soil Conservation Service; member, Program Committee, State Christmas Tree Growers Association; and member, Forestry Committee, Minnesota Division, Izaak Walton League.

RAYMOND B. SOLAC served as member, Sanitation Board, Federal Emergency Disease, Minnesota State Livestock; and member, Governor's Committee on Hog Cholera, State of Minnesota.

KENNETH H. THOMAS served as moderator and discussant, Conference at Urbana, Farm Foundation.

DEANE A. TURNER served as state vice chairman, Minnesota Christian Rural Overseas Program; and member, Publicity Committee, National Convention, American Vocational Association.

ORRIN C. TURNQUIST served as member, Potato Information Committee, Red River Valley Potato Growers Association; chairman, Arrangements Committee, Minnesota Vegetable Growers; and chairman, Nominating Committee, and chairman, Auditing Committee, Potato Association of America.

RALPH W. WAYNE served as member, Committee, American Dairy Science Association; and national secretary, Eckles Club.

CLIFFORD L. WILCOX served as secretary, North Central Regional Artificial Insemination Conference.

RAYMOND S. WOLF served as chairman, Agricultural Committee, and chairman, Kickoff Meeting, United States Savings Bonds; planner, Kickoff Luncheon, Minnesota Safety Council; and panelist, Annual Meeting, Minnesota Adult Education Association; and received a Public Interest Award from the National Safety Council; a Freedom Bond Award from the United States Treasury Department; and a Blue Ribbon Radio Award from the American Association of Agriculture College Editors.

MYRA B. ZABEL served as member, National Committee for compiling brochure of schools offering major courses in home furnishings and related fields; and participant, National Home Furnishings Conference, United States Department of Agriculture, Federal Extension Service, and Land Grant Colleges and Universities.

Agricultural Experiment Station

LLOYD C. AYRES served as chairman, Resolutions Committee, and regional chairman, Regional Meeting, Great Plains Region, American Society of Horticulture Science; program participant, Cannery Pest Meeting, Castle Chemical Company; and program participant, Hollandale Field Day, South East Vegetable Growers Association.

BRUCE A. BROWN served as member, Steering Committee, and member, Equipment Development Committee, Minnesota Forestry Service; and member, Professional Status Committee, and member, Forestry Meeting Committee, Society of American Foresters.

RALPH S. GRANT served as member, Area Development Committee, State of Minnesota.

HARLEY E. HANKE served as livestock judge for Stevens County Fair (Morris), Renville County Fair (Sacred Heart), Douglas County Fair (Alexandria), Kandiyohi County Fair (Willmar), and Swift County Fair (Appleton); judge, West Central Swine Show (Appleton); and director, Columbia Sheep Breeders Association, State of Minnesota; and made sixteen 7-minute Livestock Radio Programs and three Livestock TV Programs.

School of Forestry

CLIFFORD E. AHLGREN served as slide demonstrator, Annual Convention, American Forestry Association; and member, Forest Tree Improvement Committee, and member, Forest Management Committee, Upper Mississippi Valley, Society of American Foresters; and received a Travel Award from the Society of American Foresters; and was made a Corresponding Member of *Forestalis Fenniae*.

EGOLFS V. BAKUZIS was elected a Fellow of the American Association for the Advancement of Science.

DONALD P. DUNCAN served as secretary, Executive Committee, and Vice Chairman, Educational Direction Committee, Society of American Foresters.

HENRY L. HANSEN served as committee leader, and Minnesota representative, National Area Committee, Society of American Foresters; participant, Forest Research Conference, Ontario Department of Lands; and participant, National Area Committee, Twin City Metropolitan Area Planning Committee.

FRANK D. IRVING served as chairman, Professional Status Committee, UMW and Society of American Foresters.

FRANK H. KAUFERT served as assistant administrator, Cooperative State Research Service, United States Department of Agriculture; chairman, Committee, Society of American Foresters; chairman, committee, American Wood Preservation Association; and president, Forest History Society.

MERLE P. MEYER served as member, Minnesota Aerial Photo Committee; chairman, Minnesota Forest Research Council, Society of American Foresters; member, Minnesota Forests Survey Steering Committee, Minnesota Forestry Industry; and member, Earth Science Planning Committee, and member, Photo Interpretation Committee, American Society of Photogrammetry.

SCOTT S. PAULEY served as member, Technical Committee NC-51, United States Department of Agriculture; member, Forestry Genetics Research Foundation; participant, Conference, International Forest Insect Association; associate editor, *Journal of Forestry*, Society of American Foresters; visiting scientist, Society of American Foresters and National Science Foundation; chairman, Lake States Tree Improvement Conference; and member, Executive Committee, Populus Council.

RICHARD A. SKOK served as vice chairman, Southern Chapter, chairman, Program and Policy Committee, Mississippi Valley Section, and secretary, Division of Forestry Economics and Policy, Society of American Foresters; discussion leader, Midwest Forest Economy Conference, Lake States Forest Experiment Station; and discussion leader, Midwest Forest Economy Conference, Central States Forest Experiment Station.

KENNETH E. WINSNESS served as member, Advisory Committee, Forestry Club; secretary-treasurer, Minnesota Forestry Alumni Association; and member, Advisory Committee, Lignum Club; and received the Little Red Oil Can Award.

School of Home Economics

SUZANNE DAVISON served as textile consultant, St. Paul Conciliation Court; member, Steering Committee, Research Section, American Home Economics Association; chairman, Research, Minnesota Home Economics Association; national vice president, Executive Council, Omicron Nu; member, Technical Committee, Regional Research, Minnesota Agricultural Experiment Station; and program participant, and panel participant, National College Conference, College and University Teachers.

MARGARET D. DOYLE served as participant, TV Program, Conference, College Teachers of Foods and Nutrition; and participant, VI International Congress of Nutrition in Edinburgh.

FLORENCE A. EHRENKRANZ served as consultant, Curriculum Workshop, United States Department of Health, Education, and Welfare; group leader, National Committee on Concepts in Household Equipment, and member, Committee, National Association on Housing Instructions, Association of Land Grant Universities.

ROBERT J. FORSYTH served as judge, Fine Arts Festival, Valley City North Dakota Teachers College; and consultant to director, Notre Dame Art Gallery.

NATALIE S. GALLAGHER served as president and participant, State Meeting, Minnesota Council on Family Life; participant, Marriage and Family Living, Groves Conference; and program planning, Governor's Advisory Council on Children and Youth, Committee on Strengthening Family Life, State of Minnesota.

ETHEL R. GORHAM served as a trainer for the India Project of the Peace Corps.

MARY J. HITCHCOCK served as Minnesota delegate, and chairman elect, Institution Advisory Section, American Home Economics Association; member, Executive Committee, member and secretary, Quantity Food Technical Committee; participant, Conference of University and College Teachers of Institutional Management, American Dietetic Associations; member, Hotel and Restaurant Steering Committee, St. Paul Vocational School; representative of Minnesota Home Economics Association to Interagency Committee; member, Planning Committee, State School Lunch Workshops; participant, District Council, Minnesota Home Economics Association; and member, Committee, Society for Advancement of Food Service Research.

LURA M. MORSE served as member, Executive Board, and delegate, National American Dietetic Association Convention, Minnesota Dietetic Association; member, National Research Awards Committee, Sigma Delta Epsilon; session chairman, Institute of Clinical Dietetics, Medical Extension; and member, Nominating Committee, Minnesota Nutritional Council; and received an Outstanding Member Award from Iota Sigma Pi and election to the American Institute of Nutrition.

ROBERT J. SIRNY served as member, NC-49 Technical Committee, and chairman, NCT-83 Technical Committee, United States Department of Agriculture.

LOUISE A. STEDMAN served as member, Governor's Committee on Education, and member, Subcommittee on Women's Professional Education, Governor's Committee on Status of Women, State of Minnesota.

MURRAY A. STRAUS served as consultant, Division of Welfare Research, and consultant, National Office of Vital Statistics, Department of Health, Education, and Welfare; member, Board of Directors, National Council on Family Research; participant, Conference on Socialization, Social Science Research Council; participant, Conference on Direct Studies of Family, McLean Hospital; member, Developmental Committee, Rural Sociological Society; member, Publications Committee, Midwest Sociological Society; and member, State Legislation and Certification Committee, and member, Marriage and Divorce Statistics Committee, American Sociological Association; and received a Fulbright Senior Research Fellowship.

GLORIA WILLIAMS served as chairman, Subject Matter Section, Minnesota Home Economics Association; and discussion group leader, Central Regional Conference on Textiles and Clothing Teachers.

Department of Horticultural Science

EMIL T. ANDERSEN served as adviser, Fruits Department, Minnesota State Fair; and chairman, Fruit Variety Committee, Minnesota Horticulture Association.

TROY M. CURRENCE served as evaluator, Horticulture Department, Pennsylvania State University.

FLORIAN I. LAUER served as chairman, Technical Committee, Inter-Regional 1, and vice chairman, Technical Committee, North Central Region 34, United States Government.

ROBERT E. NYLUND served as member, Publicity Committee, Weed Society of America; and member, Research Committee, North Central Weed Control Conference.

LEON C. SNYDER served as region director, American Association of Botanical Gardens; and member, Education Committee, American Nursery Association.

CONRAD J. WEISER served as member, Horticulture Committee, Invitational Conference, North Central Region Experiment Station.

DONALD B. WHITE served as secretary, Committee 10-TURF, North Central Research Committee; and examiner, Minneapolis Civil Service Examining Board.

RICHARD E. WIDMER served as participant, Lily Seminar, Cornell University; participant, Conference, Tri-State Florists Association; member, Nominating Committee, and member, Membership Committee, American Society of Horticulture Science; and member, Planning Committee, Short Course, Minnesota State Florists Association.

North Central School of Agriculture

WILLIAM H. CROMELL served as member, Program Committee, Lake States Forest Tree Improvement Conference.

NILS H. GRIMSBO served as participant, Great Plains Horticulture Conference, American Society of Horticulture Science; and member, Fruit Listing Committee, Minnesota Horticulture Society.

WILLIAM MATALAMAKI served as member, Advisory Committee, Area Vocational Technical Schools, School District 318, Grand Rapids; technical adviser, Post-High School Technical Training in Brazil, Ford Foundation; and agricultural adviser, Land and People Conference, Federal Government; and received a Minnesota State Farmer Degree from the Minnesota Association of Future Farmers of America; a Chapter Farmer Degree from the Little Falls Chapter of Future Farmers of America; and a Meritorious Service to 4-H Award from the State 4-H Foundation.

Northwest School of Agriculture

BRUCE C. BERESFORD served as director, Crookston Garden Club; and superintendent, Horticulture and Potato Show, Red River Valley Winter Shows.

EDWARD C. FREDERICK served as chairman, Dairy Judging, Region 1, Future Farmers of America; livestock judge, continuity chairman, and supervisor, Meat and Animals Show, Red River Valley Winter Shows; and director, Top-of-Nation Dairy Association, Dairy Herd Improvement Association.

EUGENE C. MILLER served as building adviser and horse shows manager, Red River Valley Winter Shows.

ERWIN N. REIERSGORD served as president, Rotary International; and member, Education Committee, Chamber of Commerce.

BERNARD E. YOUNGQUIST served as president, Red River Valley Heritage Foundation; vice president, Jiffy Fry, Incorporated; participant, Animal Science Meetings; and delegate, National Soil Conservation Society; and received the Valley Award of Merit from Radio Stations.

Department of Plant Pathology and Physiology

DAVID W. FRENCH served as secretary-treasurer, Society of American Foresters; and member, Committee, American Phytopathological Society.

HELEN HART served as vice president, president, chief editor, and symposium editor, American Phytopathological Society; and received the Elvin C. Stakman Award.

MILTON F. KERNKAMP served as member, Research Committee, United States Army; and member, Public Relations Committee, and member, Special Committee for Coordination with Office of Defense Mobilization, American Phytopathological Society.

THOMAS H. KING served in the Institute in Biology for Secondary School Teachers of Biology, Natural Science Foundation; chairman, Committee on Awards, Gamma Sigma Delta; member, High School Scholarship Committee, Minnesota Academy of Sciences; and participant, Epidemiology and Meteorology, American Phytopathological Society.

THOR KOMMEDAHL served as discussant, Soil Microbiology Symposium, University of California, National Research Council and National Science Foundation; member, Annual Review Committee, American Phytopathological Society; scientific adviser, Flax Industry; and secretary, Executive Committee, Soil Microbiology and Root Disease NCT-71, and chairman, Executive Committee, Corn Disease NCR-25, United States Department of Agriculture.

ALBERT J. LINCK served as participant, Conference Committee on Undergraduate Education in Biological Sciences, National Science Foundation and National Academy of Sciences; participant, International Botanical Congress in Scotland, Botanical Society of America; participant, Symposium on Phytonics in London, United Nations Educational, Scientific, and Cultural Organization; president, National Gamma Alpha; and treasurer, Chapter, Gamma Sigma Delta.

CHESTER J. MIROCHA served as member, Committee on Industry, and member, Committee on Disease and Pathogen Physiology, American Phytopathological Society.

THEODORE W. SUDIA served as member, Review Panel, National Science Foundation; chairman, Section, Minnesota Academy of Sciences; visiting professor to Moscow State University, Union of Soviet Socialist Republics; and visiting professor, St. Mary's College, Winona.

ROY D. WILCOXSON served as member, Editorial Board, American Phytopathological Society; chairman, Section, Minnesota Academy of Sciences; and participant, Screening for Disease Resistance, Alfalfa Improvement Conference.

Department of Poultry Science

ELTON L. JOHNSON served as vice president, Improvement Board, U. S. Department of Agriculture; member, Industry Council, Industry Groups; adviser, Hatchery Education Program, Minnesota Poultry Hatchers; and adviser, Turkey Education Program, Minnesota Turkey Growers Association.

ROBERT N. SCHOFFNER served as participant, Poultry Breeders Roundtable, Poultry Breeders of America; and member, Breeder Research, Minnesota Turkey Growers Association; and received a Research Award from the National Turkey Federation.

MIL0 H. SWANSON served as member, NCM-7 Technical Committee, United States Department of Agriculture; vice president, Poultry Industry Council, and exhibit chairman, Minnesota State Fair, Minnesota Poultry Industry Council; chairman, Panel, and member, Planning Committee, Turkey Processes Seminar, Minnesota Poultry, Butter, and Egg Association; chairman, Panel, Convention, Minnesota Turkey Growers Association; and chairman, Judging Committee, State Egg Cooking Contest, Poultry Egg National Board.

PAUL E. WAIBEL served as chairman, Minnesota Nutrition Conference, University of Minnesota, Northwest Feed Manufacturers Association, and American Feed Manufacturers Association; and chairman, Publicity and Publications, 53rd Annual Meeting of Poultry Science Association.

Department of Rhetoric

JAMES I. BROWN served as chairman, 8th Annual Conference, International Reading Association; and program chairman, Summer Convention, and president, National Social Study Communications; and received the Alumni Citation for Outstanding Achievement from Tarkio College, Missouri.

PAUL H. CASHMAN served as consulting editor, *Central State Speech Journal*.

MARJORIE H. THURSTON served as member, American Association for United Nations; and chairman, State High School Contest on United Nations.

EUGENE S. WRIGHT served as chairman, Committee on Reading Comprehension, Communication Society and National Social Study Communications.

Department of Soil Science

DONALD G. BAKER served as vice president, Twin City Branch, American Meteorological Society.

GEORGE R. BLAKE served as member, Two Regional Research Committees; participant, International Science Conference (Netherlands); participant, Soil Permeability Conference (Germany); and consultant editor, Editorial Committee, *Agronomy Journal*, American Society of Agronomists, and received two Senior Postdoctoral Fellowships from the National Science Foundation.

PAUL M. BURSON served as member, Advisory Committee, and Board member, Council, Boy Scouts of America; and member, Pension Committee, American Society of Agronomists and Soil Science Society of America.

ROUSE S. FARNHAM served as member, Peat Standards Committee, and chairman, Peat Subcommittee, American Society for Testing and Materials; member, Classification System, Conference, National Soil Survey Conference; and honorary association member, United States Peat Production Association.

JANIS GRAVA served as member, Soil Testing Committee, North Central States.

JOHN M. MACGREGOR served as chairman, Committee, American Society of Agronomists; and chairman, Committee, Gamma Sigma Delta.

RICHARD H. RUST served as chairman, Water Infiltration Committee, and member, Soil Survey, North Central Region; and chairman, Committee, Soil Conservation Society of America.

Southern School of Agriculture

ROBERT M. COLLINS served as member, Evaluation and Accreditation Committee, Sacred Heart High School, Waseca.

GERTRUDE M. STRINDEN served as member, Scholarship Committee, Minnesota Home Economics Association; and chairwoman, Advisory Board, Status of Women, and delegate, State Convention, American Association of University Women.

School of Business Administration*Administration*

PAUL V. GRAMBSCH served as participant, White House Conference on Export Expansion; member, Executive Committee, and chairman, Long Range Planning, American Association of Schools of Business; member, Research Committee, Upper Midwest Economic Study; member, Advising Committee on Testing in Business Administration, Educational Testing Service, Princeton, New Jersey; and member, Advisory Council, President's Professional Association, American Management Association.

Department of Accounting

GORDON B. DAVIS served as member, Executive Committee, College on Measurements, Institute of Management Science; chairman, Joint National Meeting, The Institute for Management Sciences and Operations Research Society of America; and member, Management Services Committee, Minnesota Certified Public Accountants Society; and received a Faculty Research Fellowship from the Ford Foundation; and a Certificate of Merit from the National Association of Accountants.

Department of Business Functions and Management

ERNESTINE C. DONALDSON served as member, Research Committee, Report, and member, Curriculum Committee, American Business Writing Association; and member, Committee on Personal Growth and Service, Delta Kappa Gamma.

ROBERT S. HANCOCK served as director, Westminster Foundation; and research adviser, Governor's Commission on Minnesota Economic Problems.

DONALD V. HARPER served as member, Planning Committee, and proceedings editor, Biennial Marketing Institute, Minnesota Chapter, American Marketing Association.

ROBERT J. HOLLOWAY served as consultant, Administration Company, Minneapolis; and member, Task Force on Problem Definition, American Marketing Association.

EDWIN H. LEWIS served as editor, Book Series, American Marketing Association.

J. RUSSELL NELSON served as chairman, Technical Session, and member, Planning Committee, Conference on Understanding Profits, Hill Foundation and Twin Cities Business Firms.

EDMUND NIGHTINGALE served as vice chairman, Transportation and Storage Research Advisory Committee, United States Department of Agriculture; president, National and District Association on Interstate Commerce Commission Practices; vice president, Association of Traffic Clubs of America; committee chairman, Northwest Shippers Advisory Board; member, Executive Committee, Traffic Club of Minneapolis, member, Transportation Task Force, Minneapolis Chamber of Commerce; and member, Transportation Committee, St. Paul Chamber of Commerce.

NAOMI M. PETERSON served as adviser, Gopher Chapter, National Secretaries Association; and adviser, Legal Secretary Association.

CARL W. RUDELIUS, JR. served as member, University of Chicago Marketing Seminar, Ford Foundation.

HAROLD W. STEVENSON served as member, Planning Panel, Alumni Institute, Investor Bankers Association; member, Liaison, Financial Analysis of Minnesota; editor, CFA Exam, Part I, Conference on Understanding Profits, Uppgren-Gramsch, Macalester School of Business; and committee chairman, Twin City Social Security Analyst; and was awarded a membership in Beta Gamma Sigma.

C. ARTHUR WILLIAMS served as member, Administration Board, S.S. Huebner Foundation for Insurance Education; vice president and chairman, Annual Meeting Program Committee, American Risks and Insurance Association; chairman, Committee on Social Insurance Terminology, Commission on Insurance Terminology; and member, Editorial Board, *Journal of Insurance*.

Department of Quantitative Analysis

RICHARD L. KOZELKA served as president, Beta Gamma Sigma; member, Board of Trustees, Minnesota Blue Cross; chairman, Program Committee, Twin City Society of Advertising Management; member, Executive Committee, Midwest Economic Association; and executive vice president, Experience Incorporated; and member, Governor's Securities Advisory Commission.

JOHN NETER served as consultant, United States Bureau of Census; chairman, Predoctoral and Doctoral Fellowship Programs, Ford Foundation; chairman, Section on Training, member, Council, program chairman, Section on Training, National Convention, member, Statistics in Accounting Committee, and chairman, Special Symposium on Statistics in Accounting, American Statistical Association; and member, Committee on Economic Status, Minnesota Section, American Association of University Professors.

Industrial Relations Center

GEORGE W. ENGLAND served as consultant, President's Committee on Mental Retardation.

THOMAS A. MAHONEY served as director, Seminar on Social Science Organization, Ford Foundation; and director, Twin Cities Society for the Advancement of Management Study Group, Society for the Advancement of Management.

JOSEPH S. SMOLEN served as member, Board of Directors, Minneapolis Citizens Committee on Public Education; member, Committee on Aging, Community Health and Welfare Council, Hennepin County; member, Education Committee, Minneapolis Central Labor Union Council, American Federation of Labor and Congress of Industrial Operations; instructor, Parliamentary Procedure, Ojibway Folk School and Cass Lake Indian Reservation, Bureau of Indian Affairs, United States Department of Interior; and parliamentarian, State Convention, Minnesota Federation of Teachers.

CYRUS F. SMYTHE, JR. served as consultant, Labor Relations, United States Government; and arbitrator, State of Minnesota.

Department of Concerts and Lectures

JAMES S. LOMBARD served as general chairman, International Conventions, Independent Order of Odd Fellows and Rebekahs, Minneapolis; member, Executive Board, Association of College and University Concert Managers; co-director, Upper Midwest Regional Auditions, Metropolitan Opera; and member, Board of Directors, St. Paul Civic Opera; and was awarded the Knight's Cross of the Royal Norwegian Order of St. Olav by H.M. King Olav of Norway; the Knight's Order of Vasa First Class by H.M. Gustav VI Adolf the King of Sweden; and the Jewel of Meritorious and Distinguished Service of the International Order of Odd Fellows for creating and organizing the United Nations Pilgrimage for Youth.

THEODORE E. STALL served as president, Managers Association of the International Platform Association.

School of Dentistry

ROBERT J. GORLIN served as vice president, American Academy of Oral Pathology; educational consultant, Geriatrics; educational consultant, *Archives of Oral Biology*; educational consultant, American Dental Association; con-

sultant, Armed Forces Institute of Pathology; member, Clinical Fellowship Committee, American Cancer Society; consultant, Pediatrics, Hennepin County General Hospital; member, United States Congress Liaison Committee, Congressman Fraser; and member, Intern and Resident Review Board, United States Veterans Administration Hospital; and received the American Men of Science Award and Leaders in American Science Award.

ANNA T. HAMPSEL served as vice president, Omicron Kappa Upsilon; president, International Association of Research in Minnesota; adviser, Minneapolis District Dental Auxiliary.

MELLOR R. HOLLAND served as dental consultant, Minnesota Chapter, National Hemophilia Foundation; dental consultant, Minneapolis Veterans' Administration Hospital; member, Committee on American Cancer Society, Liaison, and member, University Relations Committee, Minnesota State Dental Association; and chairman, Program Committee, Minneapolis District, Dental Society. He also received a fellowship from the International College of Dentistry.

NORMAN O. HOLTE served as member, Pharmaceutical Education Committee, Minnesota State Pharmaceutical Association; and member, Board of Directors, Hennepin County Chapter, American Cancer Society.

IONE M. JACKSON served as member, Scholarship Committee, American Dental Hygiene Association. She was also awarded a life membership by the Minnesota Dental Hygiene Association and the American Dental Hygiene Association.

MAURICE W. MEYER received a Research Career Development Award from the National Institute of Dental Research.

ANDREW T. MORSTAD served as president, Minnesota Prosthodontic Society.

EUGENE E. PETERSEN served as chairman, Dental Radiation Committee, Minnesota State Dental Association.

LEON SINGER served as chairman, Fluoride Session, Gordon Conference on Bones and Teeth, American Academy of Arts and Sciences.

HELEN M. TUCHNER served as member, Education Committee, National Meeting and Chicago Midwinter Meeting, American Dental Assistants Association; chairman, Career Committee, and chairman, Past President's Council, Minnesota State Dental Meeting, Minnesota Dental Assistants Association; chairman, Committee on Inspection of Dental Assistants, Vocational Division, State of Minnesota; and participant, Conference, Training Dental Students and Assistants, United States Public Health Service.

JOHN W. WAKELY served as member, Advisory Council, and chairman, Civil Defense Committee, Minneapolis District Dental Society.

DOUGLAS H. YOCK served as area consultant, Area Veterans' Administration Dental Conference; member, Annual Meeting, International Association of Dental Research; representative, Dental Examiners and Educators Workshop, and representative, National Meeting, American Dental Association; chairman, Membership Committee, and vice president, Executive Committee, Minnesota Academy of Restorative Dentistry; president, Dental Foundation, chairman, University of Minnesota Table Clinics, State Dental Meeting, and subchairman, Minnesota Insurance Committee, Minnesota State Dental Association; and vice president, and chairman, Constitution and By-Laws Committee, Annual Meeting, American Academy of Crown and Bridge Prosthodontics.

University of Minnesota, Duluth

Administration

THOMAS CHAMBERLIN served as board member, Minnesota Tuberculosis and Health Association; board member, Duluth Welfare Council; and member, Advisory Committee, St. Luke's Hospital Nursing School.

RAYMOND W. DARLAND received the Order of the Lion of Finland and Class Commander from Finland; and a Citation for Meritorious Service from the United States Air Force.

GLADYS L. JOHNSON served as area representative, Minnesota Library Association.

RUDOLPH JOHNSON served as president, American Association of University Professors; and chairman, Awards Committee, and vice president, College Section, Minnesota Library Association.

CHESTER W. WOOD served as member, Board of Directors, Minnesota Association of Secondary School Principals; and received citations from Seoul University and the Ministry of Education in Korea; and an honorary H.L.D. from Huron College; and was made a member of the Mankato State College Hall of Fame.

Division of Education and Psychology

DEAN A. CRAWFORD served as president, American Association of University Professors; and member, Social Studies Committee, Duluth Board of Education.

RAKEL L. ERICKSON served as vice president, Local Chapter, and co-chairman, Elementary Division for Planning Institute, Minnesota Education Association and Minnesota Association of Higher Education; social studies resource person, Curriculum Planning Series, Extension Division, and departmental representative, Faculty Council, Eastern Michigan University; and member, Institute Planning Committee, Michigan Education Association.

FLORENCE M. GORTON served as member, Hostess Committee, State Convention, and member, Board of Directors, Minnesota Reading Association; and member, Board of Directors, Arrowhead Reading Association.

RUTH E. GREEN served as chairman, State Kindergarten Curriculum Committee, Minnesota Department of Education; secretary, Advisory Committee, United Campus Christian Foundation; member, State Advisory Board, Westminster Foundation; and member, Christian Education Committee, Duluth Area Presbytery.

MOY F. GUM served as consultant, Minnesota State Advisory Committee on Counseling and Testing, Office of Guidance, State Department of Education; and director of an institute, National Defense Education Act Institute Directors' Meeting, United States Office of Education.

JOAN L. HEDRICK served as member, Water Safety Committee, American Red Cross; and chairman, Necrology Committee, Minnesota Association of Health, Physical Education, and Recreation.

JOHN F. HELLING served as member, Research Team, Study of Duluth Public Schools, Duluth Board of Education and Bureau of Field Studies, University of Minnesota.

NANCY D. JOHNSON served as instructor, Blind Children, Rhythmic Activities, Light-house for the Blind; and assistant elementary supervisor, Rhythmic Activities, Mountain Iron Public Schools.

MURIEL I. LEHMAN served as secretary-treasurer, Planning Committee, Minnesota Home Economic Teacher Educators Group, and college representative, Discussion Group, Fall Conference, State Department of Home Economic Education.

RICHARD G. LIBBERG served as resource person, Ethics and Standards Committee, Student Minnesota Education Association Convention, College of St. Catherine.

JAMES S. MALOSKY served as guest coach, British Columbia Lions Football Team, Vancouver, British Columbia, Canada.

CYRIL M. MILBRATH served as resource person, National Conference on Rural Education, arrangements chairman, Professional Ethics, and member,

Board of Directors, Annual Meeting, Midwest Work Conference, University of Omaha, National Education Association; and chairman, Arrangements, National Conference of Professors of Educational Administration, University of Minnesota, Duluth, American Association of School Administration, NCPEA.

RUTH PALMER served as consultant and program organizer, Rehabilitation of Handicapped, State Extension Service; consultant, Dietetics Program, Moose Lake State Hospital; and councilor, District 8, and member, Advisory Committee, Minnesota Home Economics Association.

CRAIG E. PETERSON served as secretary, Toastmasters International Club; and member, Dates and Rules, Intramural Conference, St. Paul.

VALWORTH R. PLUMB served as member, Advisory Committee, Teacher Education, State of Minnesota; contributing editor, *Journal of Experimental Education*; and associate editor, *Journal of Educational Research*.

RUTH H. RICHARDS served as member, Curriculum Committee, State of Minnesota; hostess, Special Guest Committee, National Convention, American Association of Health, Physical Education, and Recreation; and sponsor, Planning Committee, Institute on Ball Handling, Women's Physical Education and Laboratory School.

LEWIS J. RICKERT served as chairman, Membership Committee, National College Physical Education Association for Men.

DOROTHY D. SMITH served as president, Minnesota Reading Association; and counselor, Kappa Delta Pi.

JEANE-MARIE SWORD received a Fulbright Teacher Exchange Grant from the United States Government.

ARMAS W. TAMMINEN served as member, Board of Directors, member, Personnel Committee, and member, By-Laws Committee, Duluth Mental Hygiene Clinic; professional consultant, Duluth City Mental Health, and professional consultant, Project Duluth Committee, City of Duluth; consultant, Leadership Development Conference, United States Forest Service; and consultant, Leadership Development Conference, Minnesota Power and Light.

JOHN E. VERRILL served as resource person, Range Secondary Principals Meeting, Duluth; member, Board of Directors, Association of Student Teaching-in-State, St. Cloud; and member, Delegate Assembly, North Eastern Minnesota Education Association.

PHILIP G. WALTHER served as consultant, Project Duluth Survey, Civic Leaders of Duluth; and member, Board of Directors, Duluth Rehabilitation Center; and was made a Certified Consultant Psychologist by the State of Minnesota.

WARD M. WELLS served as chairman, Planning, Division of Men's Athletics, Winter Sport Section, National Convention, American Association of Health, Physical Education, and Recreation.

MARY L. YOUNG served as chairman, Audio-Visual Aids Section, Volleyball Guide, American Association of Health, Physical Education, and Recreation.

Division of Science and Mathematics

JOHN B. CARLSON served as member, Radiation Biology Institute, National Science Foundation.

GLENN CHRISTENSEN received a Special Research Fellowship from the National Institutes of Health.

EDWARD J. COWLES served as director, Undergraduate Science Education Program, Chemistry Department, National Science Foundation.

EDWARD FLACCUS served as chairman, Public Relations Committee, American Association of University Professors; visiting scientist, Minnesota Acad-

emy of Sciences; and assistant director, Summer Institute for Biology Teachers, National Science Foundation; and was made a Fellow of the American Association for the Advancement of Science.

JOHN C. GREEN served as treasurer, University of Minnesota, Duluth Chapter, American Association of University Professors; and member, Board of Directors, Duluth Chapter, American Civil Liberties Union.

JOHN E. HAFSTROM served as member, Board of Governors, Mathematics Association of America; and director, Summer Institute in Contemporary Mathematics for Junior and Senior High School Teachers, National Science Foundation.

HOWARD G. HANSON served as Minnesota president, American Association of Physics Teachers; and received a National Science Foundation Faculty Fellowship to the University of Stockholm.

ROBERT L. HELLER served as member, Education Committee, and member, Geology Study Committee, American Geologic Institute; and director, Earth Science Curriculum Development Program, National Science Foundation and American Geologic Institute.

PERSHING HOFSLUND served as secretary, Wilson Ornithological Society; president, Minnesota Ornithological Society; and president, Arrowhead Zoological Society.

DONALD H. JACKSON served as member, Education Committee, American Society of Civil Engineers.

BLANCHARD KROGSTAD served as secretary-treasurer, North Eastern Minnesota Mathematics and Science Teachers; and panel member, Selection of Institutes, National Science Foundation.

HENRY LEPP served as member, Governor's Advisory Committee on the Minnesota Geologic Survey, State of Minnesota; chairman, Annual Meeting, Institute of Lake Superior Geologists; and visiting geoscientist, North Eastern Missouri State Teachers College and Stephens College in Missouri, American Geologic Society.

FRANCIS B. MOORE served as board member, Council, and member, Ways and Means Committee, Minnesota Academy of Sciences; and was made a member of Iowa State University Chapter of Sigma Xi.

JAMES C. NICHOL served as member, Study Research Evaluation Panel, National Science Foundation.

MOSES PASSER served as member, Board of Directors, Duluth Chapter, American Civil Liberties Union; visiting scientist, Minnesota Academy of Sciences; chairman, Chemical Education Committee, member, Education Liaison and Advisory Panel, member, Policy Committee, *Journal of Chemistry*, committee member, High School Chemistry Teachers Handbook, member, National Council, councilor, Lake Superior Section, and chairman, Education Committee, Lake Superior Section, American Chemical Society; student research director, Undergraduate Research Participation Program, National Science Foundation; and member, Committee on Peats and Related Products, American Society for Testing and Materials; and received an honorary membership in the Peat Producers Association.

Division of Humanities

ADDISON ALSPACH served as dean, American Guild of Organists, Duluth.

FORREST R. BAILEY served as member, Board of Directors, Duluth Branch, American Civil Liberties Union.

WILLIAM G. BOYCE served as president, Minnesota Art Education Association.

JACQUES C. COMEAUX served as member, Foreign Language Conference, Modern Language Association.

HENRY J. EHLERS received a Fellowship from the John Dewey Society.

PACY FRIEDMAN served as president, Minnesota Speech and Hearing Association; and member, Professional Advisory Board, United Cerebral Palsy.

HAROLD L. HAYES served as faculty adviser, Pi Kappa Delta.

ROBERT W. HOUSE served as member, Editorial Board, and member, Advisory Committee, *Journal of Research in Music Education*, Music Education National Conference; evaluator, Evaluation Teams, National Council Accreditation in Teacher Education; member, Advisory Board, Educational Policies Committee, National Education Association; chairman, Committee on Teacher Education in Music, and member, Subcommittee on Music Education, Curriculum Committee, National Association of Schools of Music; and consultant, Committee on Graduate Record Examination in Music, Educational Testing Service.

ELSIE J. KNOWLES served as conductor, Music Education National Conference.

SHIRLEY A. MUNGER received an Award in Composition from Friends of Music; an Alumni Association Award from the University of Southern California School of Music; and Department Honors in Composition from University of Southern California; and served as judge, Minnesota Music Teachers District Auditions.

ROBERT R. OWENS served as member, Program Committee, Plenary Session, and secretary-treasurer, Minnesota Conference, American Association of University Professors.

ROBERT F. PIERCE served as speech consultant, Dental-Facial Team, Minnesota Department of Welfare.

RUDOLPH SCHAUER served as art juror, International Art Exhibit, International Falls Art Association.

ARTHUR E. SMITH served as representative, American Association Colleges of Teacher Education.

JAMES E. SMITH served as editor, Publication, Minnesota Unit, American String Teachers Association; and member, Board of Directors, Duluth Symphony.

ANNA L. STENSLAND served as president, Minnesota Council of Teachers of English.

DONALD J. WEISS served as chapter treasurer, American Association of University Professors.

ALBERT TEZLA received a Research Fellowship from Inter-University Committee Travel Grant.

Division of Social Science

EMMETT DAVIDSON served as member, Duluth Charter Committee, and chairman, Charter Revision Committee, City of Duluth.

LEVERETT P. HOAG served as director, Minnesota Council for Geographic Education; and member, Geography Section Program Panel, NEMEA.

M. HARRY LEASE, JR. received a Fellowship for research from National Center for Education Policies.

MAUDE L. LINDQUIST served as member, Executive Board, Duluth Zonta Club; member, Solon J. Buck Award Committee; and program chairman, Consultative Committee.

ROBERT C. PANIAN received a Fellowship from the Minnesota State Council on Economic Education.

A. NEIL PEARSON served as board member, Family Service Society, City of Duluth; board member, and committee chairman, Bethel Home for Women, Duluth Bethel Society; project director, Community Project for Aging, Duluth

Welfare Council; member, Education Committee, Governor's Citizen's Council on Aging; and member, Planning Committee, National Security Seminar, Duluth Chamber of Commerce.

RICHARD O. SIELAFF served as director of study, Economics of Recreation, Upper Midwest Economics Study; director of study, Economics of Duluth, Area Redevelopment Association; member, Board of Directors Meeting, Minnesota Economics Association; and vice president, Midwest Economics Association.

FRANCES E. SKINNER served as secretary, Fair Employment Practices Commission, City of Duluth; member, Governor's Advisory Council on Youth, and member, Governor's Advisory Committee on Corrections, State of Minnesota; therapist, Therapeutic Group for Parents of Blind, Minnesota State Department of Public Welfare; and evaluator, Adolescent in Conflict Research Project, National Institute of Mental Health.

FREDERICK T. WITZIG served as adviser, Gamma Theta Upsilon.

JULIUS F. WOLFF, JR. served as director, Good Government Association; and director, St. Louis County Historical Society.

College of Education

Administration

WILLIAM H. EDSON served as member, Professional Preparation and Standards Committee, and member, Executive Council, American Personnel and Guidance Association; and president, Student Personnel Association for Teacher Education; and received the Service Award from the Student Personnel Association.

ROBERT J. KELLER served as chairman, Visiting Committees, Pacific-Far East Dependent Schools and Minnehaha Academy, chairman, Committee on Publications and Public Information, member, Minnesota State Committee, member, Commission on Secondary Schools, member, Specialist and Doctors Degree Committee by Type, and member, Commission on Colleges and Universities, North Central Association; member, Committee on Research and Development, College Entrance Examination Board; chairman, Education Research Panel, National Talent Study; member, Committee on Higher Education, State of Missouri; member, National Committee on Guidance and Administration, Educational Testing Service; chairman, Conference on High School Principals, Minnesota Association of Secondary Schools; member, Planning Committee, Association for Higher Education; member, Legislative Committee, New State College, Minnesota Legislature and State College Board; chairman, Secondary Education Review Committee, Pennsylvania State College; and member, Evaluation of Educational Outcomes, State of Pennsylvania, American Institute of Research.

ARNOLD WOESTEHOFF served as president, Association for School, College and University Staffing; consultant, Special Conference, United States Department of Labor; staff member, College Graduates, Teacher Education Workshop, North Central Association; member, Committee on Five Year Program, Minnesota State Advisory Committee; and member, Special Advisory Committee on Five Year Program, State Board of Education.

Department of Agricultural Education

ROBERT P. MARVIN served as conference leader, Minnesota Instructors Conference, Minnesota State Department of Education; consultant, Committee on Vocational Agricultural Teachers Education, American Society of Agricultural Engineers; and consultant, National Farm Shop Seminar, Thor Research Center for Better Farm Living; and received the Outstanding Teacher Award from the Agricultural Education Club.

STANLEY W. NELSON served as chairman, Minnesota Future Farmers of America Judging Contest, State Department of Education.

MILO H. PETERSON served as consultant, Minnesota Vocational Agricultural Institute Association; secretary, American Association of Teacher Education in Agriculture; and committee member, American Association of University Professors.

GORDON I. SWANSON served as committee chairman, American Association of University Professors; member, Planning Committee, Research Symposium, and president, Phi Delta Kappa; chairman, International Education Symposium, National Education Association; member, Educational Survey Planning Committee, Organization of American States; and member, Program Planning Committee, World Confederation of Organizations of the Teaching Profession.

Department of Art Education

CLIFTON A. GAYNE, JR. served as chairman and consultant, Fine Arts Advisory Committee, Minnesota State Board of Education and State Department of Education; chairman, Evaluation of Group Meetings, Convention, Western Arts Association; representative, Conference, Extension Specialists in Art Education; representative, Teacher Education Professional Standards Conference, National Education Association and National Art Education Association; chairman, Professional Standards Committee, and chairman, College Teachers Section, National Art Education Association; and consultant, Annual Exhibition, Conference, Minnesota Rural Artists.

WILLIAM R. HASTIE served as president, member, Commission on Art Education, and member, Editorial Board, Studies in Art Education, National Art Education Association; editor, Yearbook of Art Education, and committee chairman, National Society for the Study of Education; member, Editorial Board, *Bulletin*, and member, Planning Committee, Conference, Western Arts Association; and member, Editorial Advisory Board, *Arts and Activities*, Jones Publishing Company.

THERON HEGG served as evaluation leader, Workshop on Sculpture, Convention, Western Arts Association.

Institute of Child Development

JAMES W. BARNARD received a Kennedy Foundation Visiting Professorship.

WILLIAM CHARLESWORTH gave a radio broadcast on Gifted Children for the American Lutheran Church.

WILLARD W. HARTUP served as member, Governing Board, National Association for Nursery Education; and session chairman, Annual Convention, American Psychological Association; and became a Fellow of the American Psychological Association Division on Developmental Psychology.

JOHN P. HILL served as member, Board of Directors, Moppet Theatre; and received fellowships from the Woodrow Wilson Foundation and the National Institutes of Health.

SALLY J. KILMER served as member, State Advisory Committee on Teacher Education, and member, Screening Committee for Nursery School Teachers, Minnesota Department of Education.

SHIRLEY G. MOORE served as member, Board, National Association of Nursery Education; and co-sponsor, Second Conference of Nursery School Curriculum, State University of Iowa.

MERRILL F. ROFF served as chairman, Membership Committee, and member, Executive Committee, Society for Multivariate Experimental Psychology; and received a research grant from the National Institute of Mental Health.

HAROLD W. STEVENSON served as member, Education and Training Board, and representative, Division 7, Council of Representatives, American Psychological Association; member, Governing Council, Society for Research in Child Development; member, Institute on Cognitive Development, Social

Science Research Council; and member, Training Committee, National Institute of Child Health and Human Development.

MILDRED C. TEMPLIN served as member, Speech, Language and Hearing Committee, Education Hearing Handicap, Department of Education; member, Speech, Language and Hearing Committee, Collaborative Research, National Institute of Neurological Disorders; representative, Division 22 Council, and member, Division 22 Fellowship Committee, American Psychological Association; member, Scientific Affairs Committee, and member, Council at Large, American Speech and Hearing Association; and consultant, Site Visit, National Institute of Child Health and Human Growth.

BRITTON K. RUEBUSH served as subcommittee member, Corresponding Committee 50, and meeting chairman, American Psychological Association.

JOHN C. WRIGHT served as consultant, National Testing Panel, SMSG-National Science Foundation; editor, Child Psychology Series, Prentice-Hall, Incorporated; organizer, Mechanism of Cognitive Development, and chairman, Local Arrangements, Biennial Meeting, Society for Research in Child Development; and referee, Division of Research Grants, National Science Foundation.

Bureau of Educational Research

E. PAUL TORRANCE served as secretary, Minnesota Society for Study of Education; member, Gifted Research Conference, United States Office of Education; board member, National Association of Gifted Children; consultant, Gifted Conference, Los Angeles County; consultant, Study Conference, Association for Childhood Education International; consultant, Gifted Conferences, Minnesota State Department of Education; site visitor, Study Section, Nursing Research, National Institutes of Health; consultant, Religious Education Research Conference, Religious Education Research Association; consultant, Science and Arts Camp Conference; program chairman, American Student Teaching Association; and consultant, Evaluation Advisory Committee, National Association of Juvenile Court Judges Conference and Institute Program; and received an Outstanding Research Award from the American Personnel and Guidance Association; a Distinguished Visiting Educator Award from the University of Delaware; and the Outstanding Education Book Award from National Education Association.

Department of Elementary Education

NAOMI C. CHASE served as treasurer, Pi Lambda Theta; member, Indiana Conference on English Education; chairman, Illinois Conference of Teachers of English Education; member, San Francisco Conference on Research and Design, and director, National Council of Teachers of English; chairman, State Committee on Certifying English Teachers, Minnesota Council of Teachers of English; and chairman, State Committee on Certifying English Teachers, Minnesota Department of Education.

ROBERT DYKSTRA served as co-chairman, Cooperative Research Program in First Grade Reading Instruction, United States Office of Education; and local president, Phi Delta Kappa.

CARL V. GOOSSEN served as group chairman, Regional Conference, Department of Elementary School Principals, National Education Association.

ROBERT L. JACKSON served as member, Study of Science and Math Requirements, Community Relations, Minnesota Academy of Science; and member, Board of Directors, Minnesota Council of Teachers of Mathematics.

R. NORINE OBLAND served as member, Elementary Section Committee, and member, Program Planning Committee, National Convention, National Council of Teachers of English.

JAMES E. STOCHL served as member, Board of Directors, and first vice president, Minnesota Council of Teachers of Mathematics.

Department of General Education

AYERS BAGLEY served as director, Intergroup Education Association.

ROBERT H. BECK served as president, Philosophy of Education Society; and chairman, Editorial Advisory Board, *Journal of Teacher Education*; and received a United States-Latin America Faculty Exchange Grant from the Latin America Interchange Program of the Ford Foundation.

DONALD H. BLOCHER served as member, Planning Committee, North Central Region Meeting, Association of Counselor Educators and Supervisors; member, Greyston Conference, Division 17, American Psychological Association; chairman, Research Committee on Guidance, State Department of Education; director, Counselor and Guidance Institute, North Dakota Education Association; consultant, Veterans Administration Hospital Counseling Psychology Training Program; and director, 1963-64 North Dakota Education Association Counseling and Guidance Institute, United States Office of Education.

RAYMOND O. COLLIER served as treasurer, American Statistical Association; member, National Research Advisory Committee, Phi Delta Kappa; organizer, Statistics Symposium, chairman, Computer Paper Session, chairman, Program Committee, Division of Measurements and Research Methodology, and member, Division Organization Committee, American Education Research Association; and consultant, Conference on Research in Social Studies Teaching, Syracuse University and Cooperative Research Bureau, United States Office of Education.

LUVERN CUNNINGHAM served as director, Simulation Institute, University Council of Educational Administration; and member, Planning Committee, National Conference of Professors of Educational Administration.

OTTO E. DOMIAN served as member, Board of Directors, Minnesota Society for the Study of Education; and chief, United Nations Educational Scientific and Cultural Organization Educational Mission to Brazil.

WILLIS E. DUGAN served as member, Advisory Committee on Guidance, College Entrance Examinations Board; consultant, Evaluation Project, Pennsylvania State University; consultant, North Dakota Education Association Project Review and Direction Conference, United States Office of Education; consultant, Teachers and Counselors Workshops, Akron, Ohio, and Minneapolis Boards of Education; consultant, North Dakota Education Association Institute, Universities of Texas, Florida, South Dakota, Purdue and Michigan, and the state of Minnesota; United States delegate, International Education Conference, Geneva, Switzerland, International Bureau of Education; consultant, Professional Standards, and president, Executive Council, American Personnel and Guidance Association; member, Advisory Committee, United States Department of Labor; president, Association of Counselor Educators and Supervisors; president, Personnel Association of Teacher Education; president, Student Personnel Association of Teacher Education; trustee, National Vocational Guidance Association; consultant, Counselor Workshop, Los Angeles County; and state chairman, National Foundation, March of Dimes.

RUTH E. ECKERT served as member, Committee C on College Teaching, American Association of University Professors; member, Executive Committee, member, Book Exhibit Planning Committee, and chairman, Information Session on Higher Education, 17th National Conference on Higher Education, Association for Higher Education; member, Extension Committee, Pi Lambda Theta; member, Executive Committee, National Society of College Teachers of Education; member, Committee on Office of Statistical Information and Services, American Council on Education; educational consultant, Faculty Institute, Clarke College, Dubuque, Iowa; member, College Development Committee, Houghton College, New York; member, Board of Directors, Lilly Endowment Study of Pre-Seminary Education; and member, Research Committee, Educational Testing Service; and received Doctor of Letters Degrees from Houghton College and Drake University.

WILLIAM E. GARDNER served as president, Phi Delta Kappa; member, Advisory Board on Social Studies, and director, Social Studies Section, State

Department of Education; and coordinator and research director, Project Social Studies, United States Office of Education.

WARREN G. MEYER served as consultant, Advisory Council, and judge, Leadership Conference, Minnesota Diversified Vocations Clubs; chairman, District Educational Research Committee, District Education Division, and member, Research Committee, American Vocational Association; consultant, Advisory Board, Minnesota Vocational Coordination Association; member, Research Committee, Central Region, State Supervisor Teacher Education; and member, Evaluation Committee, North Central Association of Secondary Schools.

DANIEL C. NEALE served as delegate, Biennial Council, and president, Phi Delta Kappa; member, Editorial Advisory Committee, *MEA Journal*, Minnesota Education Association; and member, Subcommittee on Classroom Episodes, and member, Committee on Behavioral Objectives for Educational Psychology, Committee for Institutional Cooperation.

NEVILLE P. PEARSON served as member, Executive Board, and president, Minnesota Outdoor Education Section of Minnesota Education Association; president, Audio-Visual Coordination Association of Minnesota; board member, Department of Audio-Visual Institution; and board member, Minnesota Council for Gifted.

SAMUEL H. POPPER served as member, Task Force, United Council for Educational Administration; member, Board of Directors, Minnesota Association of Secondary School Principals; and member, Executive Committee, Minnesota Chapter, National School Public Relations Association.

RAYMOND G. PRICE served as organizer, Annual Meeting, State Council on Economic Education; trustee, Board of Trustees Meeting, Joint Council on Economic Education; member, Board of Directors, Consumers Union; member, State Advisory Committee on Business Education, State Department of Education; consultant, Annual Convention, Winnipeg Business Teachers; organizer, Annual Research Conference, and chairman, Committee on Evaluation of the University of North Dakota, Delta Pi Epsilon; member, Minnesota Business Education Research and Planning Committee, St. Cloud; president, National Business Education Association; president, North Central Business Education Association; and committee chairman, Council on Consumer Information.

RICHARD RANK served as local secretary and vice president, Phi Delta Kappa; and member, Revision Committee, Curriculum Bulletin, State Department of Education.

WILLIAM J. SCANLAN served as division president, Minnesota Education Association.

W. WESLEY TENNYSON served as member, Executive Board, Association of Counselor Educators and Supervisors; member, Board of Trustees, and committee chairman, National Vocational Guidance Association; chairman, Counselor Educational Standards, North Central Association of Counselor Education; member, Guidance Advisory Committee, member, Committee on Vocational Planning for Youth, and member, Ad Hoc Committee on Standards, Minnesota Department of Education; vocational consultant, Social Security Administration, Department of Health, Education, and Welfare; and member, Advisory Committee, Twin City Occupational Skill Survey, Minnesota Department of Employment Security.

ROMAN F. WARMKE served as member, Advisory Committee on Social Studies, Minnesota State Department of Education; and co-director, Clergy Economic Education.

ROGER E. WILK served as member, National Study Committee on Recruitment, Induction, and Student Programs, National Committee on Teacher Education and Professional Standards; member, Editorial Board, *SPATE Journal*, and committee chairman, Convention Program, Student Personnel Association for Teacher Education; and field evaluator, Small Contracts Research Program, United States Office of Education.

C. GILBERT WRENN served as counselor psychology consultant, Veterans Administration Hospital; counselor psychology consultant, Veterans Administration Guidance Centers; member, Personnel Committee, and Latin America consultant, National Board of Missions; member, Counseling Committee, National Young Men's Christian Association; trustee, Macalester College; consultant, United States Office of Education; executive director, Committee on Guiding American Schools; and member, Executive Council, American College Personnel Association.

Department of Home Economics Education

MARJORIE M. BROWN served as member, Curriculum Advisory Committee, and chairman, Planning Committee, Home Economics Teacher Education Conference, State Department of Education; consultant, State Conference of Home Economics Teachers, Michigan State Department of Education; consultant, Regional Conference of Home Economics Teachers, National Catholic Council of Home Economics; and member, Constitution Committee, National Organization of Omicron Nu.

ROXANA R. FORD served as member, Planning Committee, Status of Employed Women, United States Department of Labor; member, State Program Planning: Home Economics Education, Home Economics Education and State Department of Education; chairman, Committee on Area Vocational Technology Schools, Vocation Division, Minnesota Department of Education; consultant, Conference, State Plan for Vocational Education; member, Advisory Board, Minnesota Advisory Education Association; member, Committee on Higher Education, Minnesota Education Association; member, Planning Committee, Divisional Program, National Conference, American Home Economics Association; member, Hospitality Committee, American Vocational Association National Meeting; and vice president, Epsilon Chapter, Pi Lambda Theta.

AMY J. HOLMBLADE served as consultant, Development of College Programs in Home Economics, Home Economics Education, State Department of Education; member, 4-H Family Life Project Advisory Committee, Minnesota Cooperative Extension Service; consultant, Home Economics Curriculum Development, Roseville Home Economics Teachers; and consultant, Home Economics Curriculum Development, Robbinsdale Schools.

FERN M. HORN served as secretary-treasurer, National Association of Home Economic Teacher Educators; member, Adult Curriculum Advisory Committee, Roseville Schools; member, Planning Committee for Home Economics Teachers, State Department of Education; and consultant, Central Regional Conference, United States Office of Education, Home Economics Branch; and was made an honorary member of the Stout State College chapter of Phi Upsilon Omicron.

HEDDA KAFKA served as council member and historian, Minnesota Home Economics Association; and chairman, Committee on Elementary, Secondary and Adult Programs, American Home Economics Association.

ARDELL H. WANTOCH served as adviser, Publicity for Home Economics Association, Minnesota Vocation Association; treasurer, Pi Lambda Theta; and member, Planning Committee, Home Economics Teacher Educators.

Department of Music Education

ROBERT L. BORG served as adjudicator, District and State Music Contest, State of Minnesota.

ARNOLD F. CASWELL served as representative, First National Symposium on Music in Extension, University of Wisconsin; representative, Conference on Programmed Instruction in Music, Ohio State University; representative, American Choral Directors National Conference, Music Educators National Conference, Philadelphia; member, Board of Directors, New Friends Chamber Music; member, Board of Directors, Civic Orchestra; music consultant to

Director of American House, Munich, Germany; and member, Fine Arts Advisory Committee, State Board of Education.

PAUL S. IVORY served as member, Editorial Committee, and book review editor, *Journal of Research in Music Education*; music critic, St. Paul Pioneer Press; music critic, Minneapolis Star; and program annotator, Minneapolis Symphony Orchestra.

Department of Physical Education for Men

JOHN F. ALEXANDER served as member, Physical Fitness Committee, Young Men's Christian Association; member, Physical Activity Committee, Minnesota Cross Country Coaches Association; and treasurer, St. Louis Park Athletic Association.

BRUCE D. ANDERSON served as host and program organizer, KTCA-TV Sports Series; instructor, Minnesota Golf Coaches Clinic; instructor, American Association of Health, Physical Education, and Recreation Golf Section; and director, 1964 Big Ten Golf Tournament.

FREDERICK M. CHAPMAN served as member, Scholarship Committee, Minnesota Recreation Association; member, Steering Committee, National Conference on Areas and Facilities for Health, Physical Education and Recreation, Athletic Institute, National Education Association and American Association of Health, Physical Education, and Recreation; and member, Advisory Panel on Recreation for the Ill and Disabled, Department of Health, Education, and Welfare.

RICHARD DONNELLY served as member, Research Committee, Phi Epsilon Kappa; chairman, Membership Committee, chairman, Operating Codes Committee, and parliamentarian, Conference, College Physical Education Association; member, Graduate Recruitment Committee, and chairman, Professional Physical Education Subsection, American Association of Health, Physical Education and Recreation; member, Advisory Committee, Health and Physical Education, State Board of Education; and member, Governor's Advisory Committee on Physical Fitness, State of Minnesota.

JOHN A. ECKLUND served as chairman, Eastern South Dakota Guidance Association Conference.

H. ROBERT GILES served as member, Physical Fitness Advisory Committee, Governor of Minnesota.

DONALD R. LEWIS served as chairman, Tennis Program, National Physical Education, Health, and Recreation Convention; director, Tennis Program, KTCA-TV; and director, Tennis Clinic, Minnesota High School Tennis Association.

ROBERT McADAM served as participant, Evaluation of Physical Education in Public Schools, Illinois Association of Health, Physical Education, and Recreation; chairman, Research Section, Minnesota Association of Health, Physical Education, and Recreation; secretary, Evaluation and Measurement Section, American Association of Health, Physical Education, and Recreation; and coordinator, Teacher Education Project, North Central Association.

G. ROBERT MOWERSON served as secretary, Big Ten Swimming Coaches; and vice chairman, American Red Cross Safety Service Committee.

CLARENCE E. MUELLER served as secretary-treasurer, Sigma Delta Psi; and received the Arrowhead Service Award.

CLARENCE R. OSEL served as participant, General Arrangements, National Convention, American Association of Health, Physical Education, and Recreation; member, Program Committee, Annual Convention, Association of American College Sports Medicine; and member, Curriculum Revision Guide, State Department of Education.

RALPH A. PIPER served as chairman, International Relations, Central District, and chairman, International Relations, Minnesota, American Association of Health, Physical Education, and Recreation; member, Research Com-

mittee, National Association of Gymnastics Coaches; member, International Relations Committee, United States Gymnastic Federation; and member, Selection Committee, Board of Foreign Scholarships, United States State Department; and received a 25 Year Honor Award from Minnesota Coaches Association; the Annual National Honor Award from National Gymnastics Coaches Association; and a Fulbright Lectureship to Iran.

DEANE E. RICHARDSON served as member, Editorial Board, American Association for Health, Physical Education, and Recreation; chairman, Time and Site Committee, and chairman, Resolutions Committee, National College Physical Education Association; and president, Colorado Association for Health, Physical Education, and Recreation.

JOHN H. SCHULTZ served as member, Executive Committee, and editor, Minnesota Recreation Association; member, National Advisory Committee on Publishing Recreation Material, National Recreation Association; and member, Leisure Time Committee, Governor's Council on Aging.

Department of Physical Education for Women

MARGIE R. HANSON served as chairman, Child Demonstration, Convention, American Association of Health, Physical Education, and Recreation; chairman, Subcommittee on Research, Revision of State of Minnesota Physical Education Curriculum Guide; and chairman, Elementary Research Meeting, Minnesota Association of Health, Physical Education, and Recreation.

HELEN HAUPTFUEHRER served as chairman, National Convention, Poster Committee, American Association of Health, Physical Education, and Recreation; chairman, State Membership, National and Central Associations of Physical Education for College Women; and member, Advisory Board, United Campus Christian Foundation.

ELOISE M. JAEGER served as chairman, Revision of Elementary and Secondary Guides to Physical Education, State Department of Education; member, Nominating Committee for President-Elect, American Association of Health, Physical Education, and Recreation; and chairman, Tri-State Research Conference, Universities of Minnesota, Iowa, and Wisconsin.

MARY C. LAMPE served as director, Golf Clinics, National Conference of Health, Physical Education, Recreation, and Safety.

JACQUELINE SHICK served as chairman, Lost and Found Committee, American Association of Health, Physical Education, and Recreation.

HELEN M. SLOCUM served as chairman, Subcommittee, School Health Education Committee, Minnesota Heart Association; member, Planning Committee, College Health Workshop, Minnesota Departments of Health and Recreation, Tuberculosis and Heart Associations; adviser, Education Policies Commission; president, Minnesota Association of Health, Physical Education, and Recreation; president, Central District Association of Health, Physical Education, and Recreation; member, Health Curriculum Sub-Committee, Planning Committee, State Department of Health, Physical Education, and Recreation; and consultant, Ninth National Conference on Physicians and Schools, American Medical Association.

LELA J. STONER served as chairman, Research, Minnesota Association of Health, Physical Education, and Recreation.

FLORENCE TENNEY served as member, Printing and Duplication Committee, National Convention, American Association of Health, Physical Education, and Recreation; and chairman, State Physical Education Curriculum Workshop, Minnesota State Department of Education.

SUZANNE S. TINKER served as member, Board of Directors, Minnesota Section, and member, Camp Visitation Committee, American Camping Association.

MARJORIE U. WILSON served as chairman, Program Committee, National Research Council, member, Editorial Board, *Research Quarterly*, National

Research Council, member, Index Committee, *Research Quarterly*, National Research Council, chairman, Research Section, chairman, Facilities and Equipment, National Convention, member, Steering Committee, General Arrangements, National Convention, and chairman, Research Program, National Convention Program, American Association of Health, Physical Education, and Recreation; chairman, Resolutions Committee, Minnesota Association of Health, Physical Education, and Recreation; member-at-large, Legislative Board, Central District, and chairman, Site Committee, Central Association of Health, Physical Education, and Research; judge, Research Award Committee, National Delta Psi Kappa; co-chairman, Physical Fitness District 8, member, Physical Fitness Steering, Planning, and Advisory Committees, and member, Physical Fitness Committee, Governor's Council on Children and Youth; and research director, State Testing Advisory Committee, and chairman, Adapted Physical Education, Section on Guide Revision, State Department of Education; and received a 30 Years of Service Recognition Award from the American Red Cross.

Psycho-Educational Clinic

BRUCE E. BALOW served as member, Curriculum Coordinating Council, Minneapolis Public Schools; member, Johns Hopkins School of Medicine Collaborative Study Project Workshop, National Institute of Neurological Diseases and Blindness and the Institute of Child Health and Human Development; member, Civil Service Selection Board, State Department of Welfare; and member, Invitational Conference on Preparation of Teachers of Disturbed Children, National Institute of Mental Health.

Department of Special Education

JAN D. DUKER served as chairman, Certification Committee of School Psychologists, State of Minnesota; board member, Minnesota School of Psychology; board member, Minnesota Council on the Gifted; member, Field Assessment Office, Peace Corps Training Program; member, Executive Committee, and chairman, Program Committee, Minnesota Psychological Association; and chairman, Research Committee, and board member, Minnesota Association of Psychiatric Personnel.

DEWEY G. FORCE, JR. served as member, Program Committee, and chairman, Section on Crippled Children, Council on Exceptional Children; and received a research grant from the Minnesota Epilepsy League.

MARIAN D. HALL served as member, Board of Trustees, Childrens Hospital; consultant psychologist, Minneapolis Public Schools; and member, School Psychology Workshop Panel, Minnesota Psychological Association; and received a fellowship from the National Science Foundation.

ROLLIE R. HOCHINS served as member, Advisory Committee for Hearing and Vision Conservation, Minnesota State Department of Public Health; chairman, Subcommittee on Teacher Certification, Minnesota State Department of Education; member, Teacher Training Committee, Conference of Executives of American Schools for the Deaf; member, Steering Committee, Area Program for the Hearing Impaired, Minneapolis Public Schools; member, Steering Committee, Preliminary Investigation of Minnesota Programs for Secondary Age and Young Adult Hearing Impaired; and member, Speech and Hearing Advisory Committee, Minnesota Society for Crippled Children and Adults.

BJORN KARLSEN served as consultant, Seminar on Slow Learners, Minneapolis Public Schools.

JEANNE R. KENMORE served as coordinator, Nebraska Conference on Blind Children, Nebraska State Department of Education and Omaha School District; coordinator, Conference on Mobility for Blind Children, Florida State Department of Education and Florida School for the Blind; coordinator, Conference on Multiply Handicapped Blind Children, Illinois State Department of Education and Illinois School for the Blind; chairman, National Com-

mittee for Visually Handicapped, Chicago Archdiocese School District; program chairman, National Conference, National Braille Club; and chairman, Conference on Blind Children, San Antonio School District, Texas.

ROBERT ORLANDO served as program consultant, Annual Meeting, Region VIII, American Association on Mental Deficiencies; program chairman, Annual Meeting, Joint Minnesota-Wisconsin Seminar on Mental Retardation; and consultant, Advisory Meetings, Development of Research and Demonstration Programs at Owatonna State School, State Department of Welfare.

MAYNARD C. REYNOLDS served as member, Advisory Board on Handicapped, Gifted, and Exceptional Children, State of Minnesota; member, Professional Advisory Committee, Minnesota Society for Crippled Children and Adults; member, Advisory Committee, Day Activities Center for Retarded, Minneapolis; member, Advisory Committee on Fellowships under PL85-926, field reader, Cooperative Research Program, member, Advisory Committee on Research and Demonstration Grants under PL88-164, and vice chairman, Advisory Panel on Training Grants in Mental Retardation under PL88-164, United States Office of Education; chairman, Region 8, Local Arrangements, American Association on Mental Deficiencies; member, Professional Advisory Committee, Lino Lakes Center, State Department of Corrections; member, Committees on Professional Standards, Dues, and Publications, and editor, Special Publications, Council on Exceptional Children, National Education Association; member, American Civil Liberties Union Committee on Rights of Children, Minnesota Civil Liberties Union; member, Minnesota Planning Council on Mental Retardation, and member, Governor's Advisory Committee on Children and Youth, Governor of Minnesota; chairman, Advisory Committee, United States Children's Bureau; and member, "Committee of 100," and member, Visitation Team to Peabody College, National Council for Accreditation of Teacher Education.

FRANK B. WILDERSON served as consultant, Workshop: The Slow Learner, Minneapolis Public Schools and Youth Development Project.

Department of Student Teaching

GORDON M. A. MORK served as member, Minnesota Committee on Teacher Education and Professional Standards, Minnesota Education Association; member, Advisory Committee on Teacher Education, Minnesota Department of Education; deans representative, Official Meeting, American Association of Colleges for Teacher Education; college representative, Conference, and team member, Visiting Team, University of Michigan, National Council for Accreditation of Teacher Education; and co-director, North Central Association Teacher Education Workshops.

Department of Trade and Industrial Education

WILLIAM KAVANAUGH served as member, Writing Committee, Revision of State Industrial Arts Curriculum Bulletin, Vocational Division, State Department of Minnesota; chairman, Sectional Meeting, American Industrial Arts Association; consultant, North Dakota Rural Electrification Administration and Telephone Safety Instructors, North Dakota State Department of Education; consultant, Minneapolis Electronics Teachers, Vocational and Industrial Arts Department, Minneapolis School System; and participant, Individual Instruction for African Vocational Teachers, International Aid through Dunwoody Institute.

STEPHEN J. MILETICH served as treasurer, Phi Delta Kappa.

JEROME MOSS, JR. served as member, Teacher Education Committee, Minnesota Vocational Association; chairman, Graduate Studies in Industrial Arts Teacher Education, and program chairman, American Industrial Arts Association Convention, American Council on Industrial Arts Teacher Education; and chairman, General Program, and member, Committee for Advanced Study in Research in Vocational Education, Trade and Industry Division, American Vocational Association.

HOWARD F. NELSON served as member, Industrial Arts Conference; member, Steering Committee, and member, Policy and Planning Committee, American Vocation Association; vice president, American Council on Industrial Arts Teacher Education; and member, Research Committee, American Industrial Arts Association.

HAROLD T. WIDDOWSON served as consultant to 4 Advisory Committees: Rural Electrical Linemens Job and Safety Training, Minnesota Municipal Job and Safety Training Program, Minnesota Rural Telephone Job and Safety Training Program and Minnesota Voluntary Fireman Job and Safety Training Program, State Department of Education; and consultant, Vocational Teacher Training, North Dakota, South Dakota, and Nebraska.

University Elementary School

BONNIE J. POWELL served as Minnemast representative, Conference at Alverno College, Milwaukee, Wisconsin.

University High School

LESTER A. BECKLUND served as member, School Exhibits Committee, National Summer Meeting, National Council of Teachers of Mathematics; and chairman, Fall Conference, Minnesota Council of Teachers of Mathematics, Minnesota Education Association and Minnesota Federation of Teachers.

EMMA BIRKMAIER served as member, Advisory Committee, Modern Language Material Development, member, Elementary and Secondary Education Committee, Invitational Conference, member, Regional Interview Committee, International Development, and member, Research Panel, Language Research Section, Division of College and University Assistance, United States Office of Education; member, Advisory Panel for Language, American Institute on Research; member, Advisory Committee on Modern Language, chairman, Modern Language Curriculum Bulletin, and chairman, Teacher Training Conference on Modern Language, Minnesota State Department of Education; member, Interim Board of Directors, Department of Foreign Language, and member, Conference Office of National Education Association Departments, National Education Association, consultant, Foreign Language Research Program, Modern Language Association; consultant, Teaching Film Custodians, and member, Interim Committee, National Language Tape Repository, Center of Applied Living; chairman, Convention, Central State Modern Language Teachers Association; member, Steering Committee, National Graduate School TV and Films, Derochemont Film Corporation; consultant, Language Laboratory Research, New York Public School Systems; member and foreign language specialist, Commission on New Curriculum Developments, and consultant, Northwest Regional Conference on New Curriculum Developments, Association for Supervision and Curriculum Developments; consultant, Workshops, Washington State Department of Education; consultant, Foreign Language Program, Survey of Chicago Public Schools; member, Council for Instruction of French, KTCA-TV; and member, Advisory Board to Spanish Program, Encyclopaedia Britannica Films.

CLARENCE BOECK served as member, Film Advisory Board, National Science Teachers Association; member, Subcommittee on Junior High School Teachers Certification, Minnesota Department of Education; chairman, Research Committee, Association for Education of Teachers of Science; chairman, Nominating Committee, member, *Digest of Science* Edition Research, and member, Criteria for Research Committee, National Association for Research in Science Teaching; chairman, Education Committee, member, Editorial Advisory Committee, *Minnesota Journal of Science*, member, Board of Associate Editors, and member, Publications Committee, Minnesota Academy of Science; and member, Education Advisory Board, Science Education Program, *Minneapolis Tribune*.

JULIE M. BUCHHOLZ served as secretary, Lake Language Conference.

JOHN C. COULTER served as member, Preservation of Natural Resources Committee, and member, Board of Directors, Minnesota Academy of Sciences.

DONALD D. FOGELBERG served as member, Liaison, Section on Schools, Convention, and chairman, Ushers Committee, Convention, American Educational Theatre Association; drama coordinator, Valley Conference, and secretary, District 18, Minnesota State High School League; and American Educational Theatre Association representative, National Council of Teachers of English Committee, Speech Association of America.

LORRAINE S. HANSEN served as delegate, Senate Publications Committee, and assistant coordinator, Public Relations, Convention, American Personnel and Guidance Association; member, Committee on College Procedures, secretary, Minnesota Branch, editor, *ASCA Newsletter*, associate editor, *The School Counselor*, and member, Publications Committee, American School Counselors Association; delegate, Annual Conference, and member, Planning Committee, Regional Conference, Association of College Admissions Counseling; secretary, Midwinter and Spring Conferences, and panel member, Spring Workshop, Minnesota Counseling Association.

DONOVAN JOHNSON served as chairman, Yearbook Committee, member, Educational Media Committee, vice president, and member, Board of Directors, National Council of Teachers of Mathematics; and member, Board of Directors, Central Association of Science and Mathematics Teachers.

STANLEY B. KEGLER served as member, Advisory Committee, Language Arts and the Related Humanities, State Board of Education; member, Curriculum Coordination Council, Minneapolis Public Schools; member, Design Committee, chairman, Nominating Committee, chairman, English Education Conference, and member, Board of Directors, National Council of Teachers of English; director, Minnesota Curriculum Development Center, United States Office of Education; executive secretary, Minnesota Council of Teachers of English; and member, Board of Governors, Conference on English Education.

RODGER L. KEMP served as member, Curriculum Committee, member, Honors Committee, and member, Nominating Committee, Minnesota Council of Teachers of English; and member, Careers in English, judge, Achievement Awards, and member, Junior High Booklist Committee, National Council of Teachers of English.

THOMAS E. KIEREN served as co-editor, *Minnesota Council of Teachers of Mathematics Newsletter*, and member, Board of Directors, Minnesota Council of Teachers of Mathematics.

WOLFGANG S. KRAFT served as treasurer, Lake Language Conference; and chairman, Annual Meeting, Minnesota Council of Teachers in Foreign Languages.

EDITH V. KROMER served as library consultant, St. Paul Bible School, Orono High School and Osseo High School, North Central Association.

ALLAN R. KYLE served as member, Geography Sub-Committee, Social Studies Advisory Committee, Minnesota State Board of Education.

DALE L. LANGE served as exhibits chairman, Spring Conference, Central States Modern Language Teachers Association; member, Executive Board, Lake Conference for Language Association; and treasurer, Minnesota Council for Language Teachers.

ROBERT N. MACLEOD served as member, Minnesota Physical Education Curriculum Revision Committee, State Department of Education; vice president, Phi Delta Kappa; and secretary-treasurer, District 18 Coaches Association.

WILLIAM R. MARTIN served as recorder, Conference on English Education.

ROBERT M. PETERS served as faculty co-sponsor, Computer Concepts Course, UNIVAC Division, Sperry-Rand Corporation.

ROBERT R. RANDLEMAN served as editor, Newsletter Production, Minnesota Council of Teachers of English; executive secretary, and newsletter editor,

Minnesota Industrial Arts Association; co-chairman, Program on Industrial Arts and the Peace Corps, American Council on Industrial Arts Teacher Education; and chairman, Judging Committee, Industrial Education Exhibit, Minnesota State Fair.

GLENN H. RAY served as president, Lake Language Teachers Association.

STUART H. STOCKHAUS served as member, Subcommittee on Sociology, Anthropology, and Social Psychology, Social Studies Curriculum Guide Revision Committee, Minnesota Department of Education.

ROBERT W. SURPLUS served as contributor, Music Education Section, National Teacher Examinations, Educational Testing Bureau, Princeton, New Jersey.

EDITH WEST served as chairman, Social Studies Advisory Committee, and chairman, Special Advisory Committee on the Fifth Year of Teacher Preparation, Minnesota Board of Education; coordinator, Executive Committee, Minnesota Council on Social Studies; member, Research Committee, National Council on Social Studies; and director, Project Social Studies, Curriculum Development Center, United States Office of Education.

HAROLD L. WHITEHEAD served as member, Safety Committee, Minneapolis Red Cross.

ELVIRA L. WRIGHT served as member, Advisory Level Test Battery for KTCA-TV, Minnesota Council on School Television.

Extension Division

ELIZABETH L. CLESS served as chairman, Continuing Education for Women, Association of Minnesota Colleges; chairman, Humanities Committee, National University Extension Association; consultant, Annual Meeting, Women's Division, Chamber of Commerce; and consultant, Women's Continued Education, University of Pennsylvania, Pennsylvania State, Syracuse University, and Oregon State System of Higher Education.

ELEANOR S. FENTON served as secretary, Publications Committee, member, Official Liaison, member, Committee on Inter-Associational Relations, and member, Committee on Awards, National University Extension Association.

F. LLOYD HANSEN served as vice president, International Council on Correspondence Education; representative, Annual Conference, National Association of State Approval Agencies; and member, Joint Committee, Statistics and Definitions, National University Extension Association and Association of University Evening Colleges.

LEAH M. LEWIS served as chairman, Education Committee, Minnesota Chapter, Association of Interior Decorators; member, Minneapolis Institute of Arts Exhibit, educator member, Organization Meeting, and chairman, Educators Committee, Interior Designers Educators Council; and chairman, Membership Committee, International Society of Educators in Art, UNESCO.

BURTON PAULU served as associate director, National Cultural Center for Electron Media Study, Ohio State University National Defense Education Act Grant.

ORVILLE C. PETERSON served as member, Tax Study Committee, and member, Minnesota Natural Resources Council, Government of Minnesota; member, Property Tax Administration Committee, State Department of Taxation; member, Advisory Committee on Civil Defense, State Department of Civil Defense; member, Advisory Committee on Airports, Commissioner Aeronaut; member, Executive Committee, Minnesota Safety Council; and member, Citizen's Committee of Advisors, Minnesota Outdoor Recreation Resources Commission.

GILFORD REMINGTON served as member, Planning Committee, Duluth Seaway Institute, Duluth Port Authority; member, Planning Committee, Credit Union Seminar, Northeastern Minnesota Credit Union; member, Planning

Committee, Management Short Course, Air Force; and member, Planning Committee, Mining Symposium, American Institute of Mining Engineers.

WILLIAM C. ROGERS served as secretary-treasurer, and program chairman, Annual Meeting, National University Extension Association; member, Executive Committee, National Committee of Community World Affairs Organization; and chairman, Seventh Midwest Seminar on United States Foreign Policy, Midwest University Committee.

M. ELDON SCHULTZ served as deputy director, Intelligence Service, Minnesota State Department of Civil Defense.

BEVERLY R. SINNIGER served as delegate, National University Extension Association Conference; and received the Blue Ribbon for Cover Photograph from American College Public Relations Association.

ROBERT C. SLATER served as consultant, Clergy-Educational Consultant, National Funeral Directors.

SHERWOOD SNYDER served as member, Executive Committee, Community Theatre Association; secretary-treasurer, North Central Theatre Association; member, Board of Directors, American National Theatre Association; member, Board of Directors, Moppet Players; and member, Board of Directors, director, "Summer and Smoke," director, "Becket," and president, Theatre in Round.

BARBARA J. STUHLER served as chairman, Foreign Policy Committee, and director, Overseas Education Fund, League of Women Voters; member, World Affairs Committee, National University Extension Association; and member, National Advisory Committee on the Cattle Industry, United States Department of Agriculture.

WILLARD L. THOMPSON served as member, Executive Committee, League of Minnesota Municipalities; member, Committee on Graduate Study, General Extension Division, Association of Land Grant and State Universities; member, Anniversary Publication Committee, National University Extension Association; and examiner, Accreditation and Review Visits, Colleges in Illinois and Wisconsin, North Central Association of Colleges and Secondary Schools.

ERWIN C. WELKE served as member, Board of Directors, and chairman and juror, American Film Festival, Educational Film Library Association; member, Planning Committee, Film Librarians Group, DAVI, National Education Association; and chairman, Membership Committee, Audio-Visual Coordinators Association of Minnesota.

DONALD Z. WOODS served as chairman, Committee on Summer Session Statistics, North Central Conference on Summer Sessions; member, Nominating Committee, Association of University Evening Colleges; and secretary and member, Program Committee, and chairman, Committee on Extension Service for Armed Forces, National University Extension Association.

General College

FRED M. AMRAM served as member, Advisory Committee for Creative Education, and member, Planning Committee for Creative Problem Solving Institute, Macalester College; judge, Oratory Contest and Debate Contest, American Farm Economic Association; and judge, Crosby-Ironton Speech Festival and Duluth Region 7 Speech Tournament, Minnesota State High School League.

WAYNE J. ANDERSON served as member, Executive Committee, program chairman, Annual Convention, and president, Minnesota Council on Family Life; consultant, Youth Advisory Committee, State of Minnesota; program chairman, Governor's Conference on Crises in Family Life; and consultant, Strengthening Family Life Committee, Governor's Advisory Council on Children and Youth.

ROGER E. BALDWIN received a Tozer Graduate Scholarship.

HENRY BOROW served as member, Board of Trustees, and member, Convention Program Committee, National Vocational Guidance Association; member, Board of Trustees, Twin City Vocational Guidance Association; member, Board of Consulting Editors, and co-editor, Research Frontier Department, *Journal of Counseling Psychology*; consultant, Bureau of Hearings and Appeals, United States Department of Health, Education, and Welfare; consultant, Wadsworth Publishing Company; and consultant, American Association of Nurse Anesthetists; and received a Certificate Award from National Vocational Guidance Association; and accepted a Citation for the University for a General College Course in Vocational Planning from the Academy of Teachers of Occupations.

RUSSELL W. BURRIS served as session chairman, Annual Conference, American Educational Research Association; session chairman, Annual Conference, Association for General and Liberal Studies; and session chairman, Annual Conference, Minnesota Adult Education Association.

DOROTHY M. BURROWS served as member, Committee on Research, Conference on College Composition and Communication.

JEROME E. GATES served as constructor and reviewer, Items for National Board Exams, Restorative Art, National Association of Colleges of Mortuary Science.

PAUL S. HAGEN served as consultant, Nursing Education Communication Course, KTCA-TV; and member, Planning Committee, Anoka Hospital.

FORREST J. HARRIS served as secretary to Minneapolis Mayor; and delegate, State, and alternate delegate, National, Democratic Conventions.

ALLEN B. JOHNSON served as judge, Regional High School Science Fair, Minnesota Junior Academy of Sciences.

FRED A. JOHNSON served as associate director, Project Social Studies, Federal Department of Education; education consultant, Workshop for Continental Societies of Minnesota; member, Evaluation Committee, North Central Association of Secondary Schools and Colleges; and consultant, Social Studies, Workshop for Twelfth Grade Social Studies Teachers, Hill Foundation.

LESLIE A. KING served as member, Board of Trustees, vice president, program chairman, and member, Workshop Seminar, Twin City Vocational Guidance Association; member, Ethics Committee, Phi Delta Kappa; member, Annual Convention, Minnesota Psychology Association; and member, Testing Conference, Minnesota State-Wide Testing Program.

G. GORDON KINGSLEY served as member, Convention, American Personnel and Guidance Association; and was made a Certified Consulting Psychologist by the Minnesota Board of Examiners.

GARRETT MANDEVILLE served as consultant, Test Construction, Minnesota State Department of Education.

KAYE K. MATSUMOTO served as adviser, Asian Studies Program, Robbinsdale Social Studies Staff.

GEORGE H. McCUNE served as adviser, National Education Association Publications, Educational Policies Commission; consultant, African Realities Institute, St. Paul Schools; chairman, Media for Instruction, American Educational Research Association; analyst, National Conference for Higher Education, American Association for Higher Education; and preliminary judge, American Film Festival, Educational Film Library Association.

NORMAN W. MOEN served as member, Advisory Committee on Junior Colleges, Minnesota State Department of Education.

HORACE T. MORSE served as member, Planning Committee, National Conference, Association of General Liberal Studies; chairman, National Conference, Association for Higher Education; delegate, International Conference.

International Association of University Professors and Lecturers; and delegate, National Conference, White House.

OLIVER S. OWEN served as judge, Junior High Biology Exhibits, Regional Science Fair.

IVAN POLICOFF served as judge, Regional Science Fair.

LEON REISMAN served as member, Handbook Committee, and member, English for Two Year College, National Council of Teachers of English.

LOUIS T. SAFER served as judge, Art Show, St. Paul Gallery School of Art; member, Art Symposia, Minnesota Art Association; and judge, International Exhibition of Color Photographs, Twin Cities Area Council of Camera Clubs.

DOROTHY L. SHELDON served as member, Governor's Advisory Committee on Correctional Camps, and member, Governor's Advisory Committee on Correction and Parole, State of Minnesota; and member, Advisory Board, Twin City International Program for Youth.

F. R. STEINHAUSER served as editor, Newsletter, president, and chairman, Geography Section, Minnesota Council on Geographic Education; coordinator, Program, and chairman, Geography Section, Minnesota Academy of Science; coordinator, National Effort in State, National Council on Geographic Education; secretary, Social Studies Advisory Committee, State Department of Education; representative of Geography, Project Social Studies, National Science Foundation; chairman, Geography Section, Minnesota Council on Social Studies; and chairman, Geography Section, Minnesota Education Association.

ALFRED L. VAUGHAN served as member, General Education Committee, American Association for Higher Education.

JAMES K. WINFREY served as member, Editorial Board, *Minnesota Counselor*, Minnesota Counseling Association; program chairman, National Convention, American Personnel and Guidance Association; and regional chairman, National Planning Conference, regional chairman, Role and Function of School Counselor, and chairman, Implications of Wrenn Report, American School Counselor Association.

CANDIDO P. ZANONI received a Tozer Foundation Grant.

Graduate School

Administration

FRANCIS M. BODDY served as member, Licensing Committee, member, City-County Library Committee, and member, Board of Directors, Citizens League; member, Governor's Advisory Commission to Department of Business Development; member, Board of Directors, National Bureau of Economic Research; member, Committee on Economic Census Data, Social Science Research Council; member, Travel Grants Committee, Inter-University Committee; member, Electronics Industry, Governor's Committee; and chairman, Committee on Interinstitutional Cooperation, Association of Graduate Schools.

BRYCE CRAWFORD, JR. served as chairman, Executive Committee, Council of Graduate Schools; member, Executive Committee, Inter-University Committee on Travel Grants; member, Division of Physical Chemistry, member, Advisory Committee on College Chemistry, member, Committee on Professional Training, and council member, American Chemical Society; member, Chemical Division Review Committee, Argonne National Laboratories; vice president, Board, Association of Midwest Universities; member, Committee for Survey of Chemistry, National Academy of Science; member, Subcommittee on Infrared Intensity Standards, Union of Pure and Applied Chemistry; and member, Advisory Committee on Program in Chemical Technology, Department of Chemistry, Oakland City College, California.

Hormel Institute

JACQUES R. CHIPAULT served as member, Instrument Analysis Committee, member, Gas Chromatography Subcommittee, and member, Spectroscopy Subcommittee, American Oil Chemistry Society.

RALPH T. HOLMAN served as member, Committee on Fats, Food and Nutrition Board; and received a special fellowship from the National Institutes of Health.

VAIDYANATH MAHADEVAN served as chairman, Literature Review Committee, and member, Journal Committee, American Oil Chemistry Society; and received an Advanced Research Fellowship from the American Heart Association.

HELMUT K. MANGOLD served as consultant, Nuclear Studies, Oak Ridge Institute.

Mayo Foundation of Medical Education and Research

EUGENE ACKERMAN served as editor, *Newsletter*, Society for Social Responsibility in Science; and editor, *Applied Mechanics Reviews*.

MARTIN T. ADSON served as member, Medical Service Committee, Minnesota State Medical Association; and secretary-treasurer, Minnesota Surgical Society.

ALEXANDER ALBERT served as chairman, Endocrinology Study Section, member, Research Career Awards, and member, Pituitary Hormone Distribution Committee, United States Public Health Service and National Institutes of Health; and received the Distinguished Service Award from the American Thyroid Association.

HOWARD A. ANDERSEN served as member, Pulmonary Disease Committee, and member, Smoking Education Committee, Minnesota State Medical Association; and member, National Meeting Program Committee, and president, Minnesota Chapter, American College of Chest Physicians; and received a Certificate of Merit from the American Medical Association.

MARK J. ANDERSON, JR. served as member, Editorial Committee, American Proctologic Society; and received the Piedmont Proctologic Society Award.

MILTON W. ANDERSON served as associate editor, *Diseases of the Chest*; and member, Committee on Electrocardiography, American College of Chest Physicians.

ARNOLD E. ARONSON received the Outstanding Teacher of Speech Award from Central States Speech Association.

ARCHIE H. BAGGENSTOSS served as member, Editorial Board, *Archives of Pathology*; member, Editorial Board, *Gastroenterology*; and member, Panel on Liver Pathology, Subcommittee on the National Halothane Study, National Research Council.

EDWARD A. BANNER served as member, Executive Council, Continental Gynecologic Society.

LLOYD G. BARTHOLOMEW served as secretary, Section of Gastroenterology, American Medical Association; member, Committee on Scholarship and Education, Minnesota State Medical Association; president, and chairman, Gifts and Awards Committee, Southern Minnesota Medical Association; and editorial consultant to the *Journal of the American Medical Association*.

JAMES A. BASTRON served as first vice president, American Association of Electromyography and Electrodiagnosis.

EDWIN D. BAYRD served as member, Editorial Staff, *Minnesota Medicine*, Minnesota State Medical Association; and Sir Norman Paul Visiting Professor, Sydney Hospital, Sydney, Australia.

OLIVER H. BEAHRs served as chairman, Program Committee, and member, Executive Council, Society of Head and Neck Surgeons; and member, Committee on Cancer, American College of Surgeons.

KENNETH G. BERGE served as member, Council on Arteriosclerosis, American Heart Association; member, Steering Committee and Criteria Subcommittee, Cooperative Study of Drugs and Coronary Disease, National Heart Institute; alternate delegate, Minnesota State Medical Association; and member, Committee on Tetanus, Zumbro Valley Medical Society.

PHILIP E. BERNATZ served as member, Committee for Planning Scientific Program of Annual Meetings, Minnesota State Medical Association; and received a Certificate of Merit from the American Medical Association.

ANTHONY J. BIANCO, JR. served as chairman, Committee on Automotive Injuries, Minnesota State Medical Association.

WILLIAM H. BICKEL served as member, Residency Review Committee for Orthopaedic Surgery, American Medical Association; examiner of Board, American Board of Orthopaedic Surgery; president, and member, Committee on Graduate Education, American Academy of Orthopaedic Surgeons; and member, Committee on Graduate Education, American College of Surgeons.

REGINALD G. BICKFORD served as member, Examination Committee, Electroencephalography Qualification Board, American Electroencephalography Society.

HARRY F. BISEL served as member, Board of Directors, Pennsylvania Division; and member, Research and Professional Education Committees, Minnesota Division, American Cancer Society; chairman, Committee on Cancer, Allegheny County Medical Society; member, Commission on Cancer, Pennsylvania Medical Society; and member, Editorial Review Board, Cancer Chemotherapy Reports.

B. MARDEN BLACK served as member, Editorial Board, *American Journal of Surgery*.

CHARLES M. BLACKBURN served as member, Cooperative Breast Cancer Group, National Cancer Institute; and consultant, National Cancer Institute, National Institutes of Health.

DAVID A. BOYD, JR. served as member, Residency Review Committee for Psychiatry and Neurology, American Medical Association; executive secretary, American Board of Psychiatry and Neurology, Incorporated; and vice-president, Conjoined Meeting of American Psychiatric Association and Mexican Society of Neurology and Psychiatry, Mexico City.

ROBERT O. BRANDENBURG served as chairman, Community Service Development Fund, member, Executive Committee, and chairman, Nominating Committee, Council Coordinating Committee for Community Program, American Heart Association; section chairman, Second National Conference on Cardiovascular Diseases; and member, Board of Directors, Minnesota Heart Association.

THOMAS L. BRANNICK served as counselor, Minnesota State Psychiatric Society.

JOE R. BROWN served as member, Medical Advisory Board, National Multiple Sclerosis Society; member, Editorial Board, *Neurology*, and chairman, Membership Committee, American Academy of Neurology; and consultant, Veterans Administration.

LOUIS A. BRUNSTING served as member, Editorial Board, *Archives of Dermatology*, American Medical Association; representative, American Board of Dermatology, American Academy of Dermatology; USA representative, International Committee, XII International Congress of Dermatology, International League of Dermatological Societies; associate editor, *Dermatologica*; and member, Advisory Panel on Dermatology, United States Pharmacopeia.

ARTHUR H. BULBULIAN served as associate editor, *Journal of Prosthetic Dentistry*, American Academy of Maxillofacial Prosthetics.

HOWARD B. BURCHELL served as chairman, Council, Minnesota Society of Internal Medicine; prelector, St. Andrews University; Gibson Lecturer, Royal College of Physicians; and guest professor, University of Amsterdam.

E. OMER BUGERT, JR. served as chairman, Wilm's Tumor Study, and chairman, Study on Acute Lymphocytic Leukemia in Children, National Institutes of Health.

HUGH R. BUTT served as governor for State of Minnesota, member, Committee on Postgraduate Study, member, Nominating Committee, member, Committee on Awards, and member, Committee to Study Public Relation Activities for the College, American College of Physicians; counselor and president, American Association for the Study of Liver Disease; chairman, Board of Scientific Counselors, National Cancer Institute; visiting professor, Gastroenterology, University of Washington; and member, Board of Governors, University of Virginia Medical Alumni Association.

JAMES C. CAIN served as member, Adverse Drug Reaction Committee, American Medical Association; council member, Minnesota Internal Medicine Society; and member, National Heart Council, National Research Council.

DAVID T. CARR served as member, Executive Committee and member-at-large, Board of Directors, National Tuberculosis Association; vice president, member, Committee on Research, and member, Trudeau Medal Committee, American Thoracic Society; and member, Scientific Assembly Committee, Minnesota State Medical Association.

HADDON CARRYER served as member, Audio-Visual Committee, American Academy of Allergy; member, Under-graduate Committee, American College Academy of Allergy; president, chairman, Scientific Assembly Committee, member, Counsel, chairman, University Relations Committee, and chairman, Committee on Permanent Review, Minnesota State Medical Association; and member, Executive Committee, Zumbro Valley County Medical Society; and received an Alumni Distinguished Service Award from Drake University.

EARL T. CARTER served as member, Advisory Council for Research to the Civil Air Surgeon, Federal Aviation Agency; consultant in research, Ohio Tuberculosis Hospital; research supervisor, Research Foundation, Ohio State University; and consultant in human factors, North American Aviation, Incorporated.

DONALD S. CHILDS, JR. served as member, Board of Trustees, and chairman, Committee for Therapeutic Radiology Residency, American Board of Radiology; member, Advisory Editorial Board, Radiological Society of North America; representative, American Board of Radiology, American Radium Society; member, Commission on Radiologic Unit Standards and Protection, American College of Radiology; member, Committee on Medical Uses of Isotopes, Atomic Energy Commission; and member, Committee on Cancer, Minnesota State Medical Association.

NORMAN A. CHRISTENSEN served as member, College Committee on Clinical Cardiovascular Diseases, American College of Chest Physicians; diplomate, Pan American Medical Association; and member, Tetanus Committee, Zumbro Valley Medical Society; and received a special award for movie, "Tetanus and Its Prevention," World Medical Association; and was made a Fellow, American College of Angiology.

O. THERON CLAGETT served as member, Board of Governors, American College of Surgeons; member, Editorial Board, *Journal of Thoracic and Cardiovascular Surgery*; member, Editorial Board, *Advances in Surgery*; member, Committee on Publications, *Surgery*; and secretary-treasurer, Board of Thoracic Surgery.

CHARLES F. CODE served as project site visitor, National Institutes of Health; editor in chief, *Physiological Reviews*; member, Editorial Board, *Gastroenterology*; editor, *Handbook of Physiology of Alimentary Canal*, American Physiological Society; and president, American Gastroenterological Association.

DOUGLAS T. COLES received the Campbell-Howard Prize, Clinical Medicine.

KENDALL B. CORBIN served as member, Committee on Public Relations, American Neurological Association; chairman, Rochester Committee on Higher Education; and member, United Fund Admissions Committee.

MARK B. COVENTRY served as trustee of Journal Bone and Joint Surgery; editor, *Bulletin*, American Academy of Orthopedic Surgery; and member, Medical Advisory Committee, Minnesota State Medical Association.

CLYDE E. CULP served as member, Board of Trustees, Northwest Proctologic Society.

ORMOND S. CULP served as member, Residency Review Committee for Urology, American Board of Urology; governor, American College of Surgeons; vice president, Clinical Society of Genito-Urinary Surgeons; vice president, Pan-American Medical Association; member, Surgeon General's Editorial Committee for Urologic History of World War II; and visiting professor, University of Missouri.

DAVID C. DAHLIN served as member, Cytology Committee, Minnesota Society of Clinical Pathology.

FREDERIC L. DARLEY served as editor, *Monography*, member, Executive Council, and director, American Boards of Examiners in Speech Pathology and Audiology, American Speech and Hearing Association; consultant in Speech Pathology, Army Audiology and Speech Center, Walter Reed Army Hospital, Washington; and consultant and site visitor, National Institute of Child Health and Human Development.

GEORGE D. DAVIS served as member, House of Delegates, and chairman, Committee on Hospital and Professional Relations, Minnesota State Medical Association.

WILLIAM H. DEARING served as chairman, Executive Committee, and delegate, Section of Gastroenterology, American Medical Association.

DAVID G. DECKER served as member, Constitution and By-Laws Committee, American Society for the Study of Sterility; and member, Board of Directors, member, Research Committee, and member, Executive Committee, Minnesota Division of American Cancer Society.

J. G. DELANO served as member, Governor's Advisory Board on Handicapped, Gifted, and Exceptional Children; and chairman, Subcommittee on Child Psychiatry, Mental Health Medical Policy Committee, Minnesota Department of Welfare.

KENNETH D. DEVINE received a Citation for excellence on the thesis, "Sarcoidosis and Sarcoidosis of the Larynx," from the Trilogical Society.

E. ROLLAND DICKSON received a Postgraduate Travel Award.

EDWARD P. DIDIER served as member, Committee on Medical Schools and Postgraduate Education, Minnesota Society of Anesthesiologists.

G. ROY DIESSNER served as chairman, Committee on Aging, member, Medical Committee on Rehabilitation, and vice president, Minnesota State Medical Association; and member, Executive Committee, and vice president, Zumbro Valley Medical Society.

MATTHEW B. DIVERTIE served as member, Consultation Committee, Minnesota Thoracic Society; co-editor, *Medical Clinics of North America*, Mayo Clinic issue; and guest editor, *Postgraduate Medicine* issue; and received a Certificate of Merit of exhibit on "Pulmonary Manifestations of Systemic Diseases," Annual Meeting, National Tuberculosis Association; and Billings Bronze Medal for same exhibit at American Medical Association Meeting, Chicago.

MALCOLM B. DOCKERTY served as member, Tumor Registry, Central Association of Obstetrics and Gynecology; consultant, Armed Forces Institute of Pathology, Washington; and chairman, Tumor Seminar Committee, and counselor, Minnesota Society of Clinical Pathologists.

FRANCIS E. DONOGHUE served as member, House of Delegates, Minnesota State Medical Association; and secretary-treasurer, Zumbro Valley Medical Society.

BRUCE E. DOUGLASS served as member, Committee on Industrial Medicine, Minnesota State Medical Association.

JAMES W. DUSHANE served as chairman, Sub-Board of Pediatric Cardiology, American Board of Pediatrics; member, Board of Directors, Minnesota Heart Association; member, Poliomyelitis Advisory Committee, State Board of Health; and chairman, Advisory Committee, Regional Cardiac Program of Crippled Children's Services.

PETER J. DYCK served as member, Board of Editors, *Minnesota Medicine*, Minnesota State Medical Association.

JOHN A. DYER served as member, Executive Committee, Contact Lens Association of Ophthalmologists; and council officer, Minnesota Academy of Ophthalmology and Otolaryngology.

EARL C. ELKINS served as secretary, Section on Physical Medicine, chairman, Residency Review Committee for Physical Medicine and Rehabilitation, and member, Study Committee on Physical Medicine of Commission to Coordinate the Relationships of Medicine with Allied Health Professions and Services, American Medical Association; secretary-treasurer, and chairman, Credentials Committee, American Board of Physical Medicine and Rehabilitation; member, Executive Council, American Congress of Physical Medicine and Rehabilitation; chairman, American Registry of Physical Therapists; consultant, Office of Surgeon General, Department of Army; chairman, Medical Committee on Rehabilitation, Minnesota State Medical Association; member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; and member, State Advisory Council on Hospital Construction, Division of Hospital Services, Minnesota Department of Health.

F. HENRY ELLIS, JR. served as member, Committee on Aging, Minnesota State Medical Association; and member, Research Allocations Committee, Minnesota Heart Association.

JOHN L. EMMETT served as member, Board of Editors, *Journal of Urology*, American Board of Urology; and was made an honorary charter member, University of Utah Medical School Alumni Honor Society; and delivered the 36th Annual William T. Belfield Memorial Lecture of the Chicago Urologic Society.

JOHN B. ERICH served as member, American Board of Plastic Surgery; and regional vice president, American Fracture Association.

DONALD J. ERICKSON served as president, American Congress of Physical Medicine and Rehabilitation; area consultant, Physical Medicine and Rehabilitation, Veterans Administration; member, Subcommittee on Physically Handicapped Children, Minnesota State Medical Association; member, Subcommittee on Physically Handicapped Children of the Committee on Child Health, Minnesota State Department of Welfare; and member, Medical Advisory Board of United Cerebral Palsy, State of Minnesota.

JOHN E. FABER served as chairman, District VI, member, Executive Committee, member, Committee on Legislation, and member, Committee on Continuing Education for Nurses, American College of Obstetrics and Gynecology.

JOHN F. FAIRBAIRN II served as member, Council on Circulation's Medical Advisory Board, and member, Council on Arteriosclerosis, American Heart Association; and member, Professional Education Committee, Minnesota Heart Association.

ALBERT FAULCONER, JR. served as member, Advisory Board, and secretary-treasurer, Advisory Board, American Board of Anesthesiology; consultant, Surgeon General, United States Army; and consulting editor, Survey of Anesthesiology.

DEWARD O. FERRIS served as member, Board of Governors of Minnesota and chairman, Committee on Applicants for District 2 of Minnesota, American

College of Surgeons; and member, Board of Directors, and chairman, Membership Committee, Minnesota Surgical Society.

ROBERT S. FONTANA served as member, Sub-Board in Pulmonary Diseases, American Board of Internal Medicine.

WARD S. FOWLER served as member, Physiology Training Committee, National Institutes of Health.

CLIFFORD F. GASTINEAU served as member, Committee on Information for Diabetics, member, Editorial Board, *Forecast*, and member, Editorial Board, *Journal of Diabetes*, American Diabetes Association.

S. W. GEDGE served as chairman, Committee on Aging, Zumbro Valley Medical Association.

JOSEPH E. GARACI served as member, Antibiotic and Chemotherapy Committee, and secretary-treasurer, Minnesota Chapter, American College of Chest Physicians; and received a Certificate of Merit for excellence in medical writing, *Minnesota Medical*.

JOSEPH A. GIBILISCO served as member, Dental Radiation Special Committee, and member, University Relations Committee, Minnesota State Dental Association; member, Grants-In-Aid Committee, Minnesota Dental Foundation; and chairman, Dental Research Conference in Sensory Craniofacial Innervation, National Institute of Dental Research.

EMILIO R. GIULIANI served as chairman, Committee for Student Scholarships, Minnesota Heart Association; and received the A. Ashley Rousuck Award.

NORMAN P. GOLDSTEIN served as assistant examiner, American Board of Psychiatry and Neurology.

C. ALLEN GOOD served as member, Board of Trustees, member, Executive Committee, and vice president, American Board of Radiology; secretary, member, Executive Council, and member, Program Committee, American Roentgen Ray Society; and Caldwell Lecturer, American Roentgen Ray Society.

ROBERT J. GORES served as member, Committee on Federal Oral Surgical Services, American Society of Oral Surgeons; and president, Minnesota Society of Oral Surgeons.

ALLAN B. GOULD, JR. served as member, Committee on By-Laws, Minnesota Society of Anesthesiologists.

LAURENCE F. GREENE served as member, Committee on Rating of Mental and Physical Impairment, and consultant, Council on Drugs, American Medical Association.

JOHN B. GROSS served as member, Research Committee, American Gastroenterological Association.

OLAV E. HALLBERG served as member, Otosclerosis Study Group, American Academy of Ophthalmology and Otolaryngology; and vice president and council member, Minnesota Academy of Ophthalmology and Otolaryngology.

GEORGE A. HALLENBECK served as secretary-treasurer, Steering Committee, Gastroenterology Research Group; member, Editorial Board, *Journal of Surgical Research*; and member, Editorial Board, *American Journal of Digestive Diseases*.

A. RUSSELL HANSON served as chairman, Committee on Foreign Medical Personnel, and member, Program Committee, Conference, National Association of Foreign Student Affairs; member, Section on Medical School Teaching Hospitals, Association of American Medical Colleges; and foundation representative to Medical Education for National Defense.

NORBERT O. HANSON served as chairman, Medical Advisory Committee, Olmsted County Welfare Board; and vice president, Mayo Foundation Chapter, Society for the History of Medicine.

MALCOLM M. HARGRAVES served as chairman, State Water Pollution Control Commission, State of Minnesota.

LOYD E. HARRIS served as official board examiner, American Board of Pediatrics; and member, Committee on Child Health and Immunizations, Minnesota State Medical Association.

VIRGINIA B. HARTRIDGE served as member, Legislative Committee, Minnesota Society of Anesthesiologists.

ALVIN B. HAYLES served as member, Special Committee, Minnesota State Medical Association; and president, Zumbro Valley Medical Society.

LEROY D. HEDGECOCK served as member, Program Committee, and member, Committee on Liaison Between Otolaryngology and Audiology, American Speech and Hearing Association; member, Special Advisory Committee, Education of the Deaf, Department of Health, Education, and Welfare; consultant, Minnesota Academy of Ophthalmology and Otolaryngology; and member, Speech and Hearing Advisory Committee, Minnesota Society for Crippled Children and Adults.

W. HEIDEL served as member, Board of Directors, American Medical Writers' Association.

EDWARD D. HENDERSON served as chairman, Committee on Infection, American Academy of Orthopaedic Surgeons; chairman, Committee on Athletic Injuries, Minnesota State Medical Association; secretary-treasurer, Orthopedic Travel Club; chairman, Program Committee, American Society for Surgery of the Hand; chairman, Program Committee, Clinical Orthopedic Society; associate editor, *Journal of Orthopedics*; and civilian consultant, 5th United States Army.

JOHN W. HENDERSON served as chairman, Midwestern Section, Association for Research in Ophthalmology; and section editor, *Survey of Ophthalmology*.

LOWELL L. HENDERSON served as member, Allergy Sub-Board, American Board of Internal Medicine; member, Board of Regents, and member, Board of Directors, American College of Allergists; and member, Pulmonary Diseases Committee, Minnesota State Medical Association.

NORMAN G. HEPPER served as member, Executive Committee, member, Program Committee, and secretary-treasurer, Minnesota Thoracic Society.

PAUL E. HERMANS received the Judson Daland Travel Award.

E. C. HERRMANN, JR. served as editor, Virology Edition, *Post Graduate Medicine*; and organizing chairman, Conference on Antiviral Agents, New York Academy of Science.

JOHN R. HILL served as program chairman, Annual Meeting, and secretary-treasurer, Research Foundation, American Proctologic Society; and chairman, Folg Committee, Minnesota State Medical Association.

CORRIN H. HODGSON served as member, Insurance Liaison Committee, and member, House of Delegates, Minnesota State Medical Association; president, Zumbro Valley Medical Society; and president, Minnesota Medical Foundation.

JOHN R. HODGSON served as president, Minnesota Radiological Society; first vice president, and program chairman, Radiologic Society of North America.

ROBERT W. HOLLENHORST served as member, Committee on Ophthalmology, Minnesota State Medical Association; member, Board of Directors, Preschool Survey of Vision and Hearing, Incorporated; and consultant, Services for the Blind, Department of Public Welfare, State of Minnesota.

WILLIAM H. HOLLINSHEAD served as member, Anatomy Test Committee, National Board of Medical Examiners.

COLIN B. HOLMAN served as member, Publication Committee, Neurosurgical Society of America; member, Executive Committee, and chairman, Finance Committee, American Roentgen Ray Society.

NORMAN W. HOOVER served as member, Committee for Disaster Medical Care, Minnesota State Medical Association.

G. G. HUNDER received a P. S. Hench Scholarship Award.

A. B. HUNT served as associate examiner, American Board of Obstetrics and Gynecology; member, Historical Committee, and member, Committee on Physician Assistance, Minnesota State Medical Association; member, Executive Council, Minnesota State Historical Society; and director, Children's Home Society.

JOHN C. IVINS served as member, Committee on Injuries, American Board of Orthopedic Surgery; member, Trauma Committee, American College of Surgeons; and consultant, Armed Forces.

HORACE K. IVY served as member, Committee on Diabetes, Zumbro Valley Medical Association.

RAYMOND J. JACKMAN served as vice president, American Proctologic Society; chairman, Section of Proctology, American Medical Association; president, Minnesota State Board of Health, member, House of Delegates, and member, State Health Relations Committee, Minnesota State Medical Association.

EINER W. JOHNSON, JR. served as member, Medical Testimony Committee, and member, Permanent Evaluation Committee, Minnesota State Medical Association; and president, Zumbro Valley Medical Society.

VICTOR JOHNSON served as member, Research Institute Committee, Upper Midwest Research and Development Council; member, Scientific Council, Institute for Advancement of Scientific Communication; director, Alpha Omega Alpha; director, United States Committee, World Medical Association; consultant, Personnel and Training, Surgeon General of the Army; and national civilian consultant, Surgeon General, United States Air Force.

ROBERT R. JONES served as consultant to the Surgeon, 5th Army; and president, Minnesota Society of Anesthesiologists.

EDWARD S. JUDD served as member, District Advisory Committee, member, State and Regional Credentials Committee, and member, Advisory Committee on Arrangements, American College of Surgeons; member, Program Committee, Society for Surgery of the Alimentary Tract; president, Central Surgical Association; and member, Editorial Boards, *Archives of Surgery*, *American Surgeon*, and *Proceedings of the Mayo Clinic*.

JOHN L. JUERGENS served as chairman, Professional Education Committee, Council on Circulation; and member, Professional Education Committee, and member, Board of Directors, Minnesota Heart Association.

ALFRED G. KARLSON served as member, Editorial Board, *American Journal of Veterinary Research*, American Veterinary Medical Association; member, Committee on Taxonomy of Mycobacteria, American Society for Microbiology; secretary-treasurer, Conference of Research Workers in Animal Diseases; editor, Section on Veterinary Science, *Biological Abstracts*; member, Committee on Research, American Thoracic Society; member, Board of Directors, and member, Committee on Special Grants, National Tuberculosis Association; associate member, Committee on Tuberculosis, Minnesota State Medical Association; and member, Board of Directors, and chairman, Committee on Research, Minnesota Tuberculosis and Health Association.

FRANCIS J. KAZMIER received a Postgraduate Travel Award.

THOMAS P. KEARNS served as associate editor, *Archives of Ophthalmology*, and member, Program Committee, Section Ophthalmology, American Medical Association.

F. RAYMOND KEATING, JR. served as consultant, Radiation Branch, and member, Protocol Committee, National Radioiodine Review Study, United States Public Health Service.

PATRICK J. KELLY served as associate editor, *Journal of Bone and Joint Surgery*; member, Program Committee, Orthopaedic Research Society; project

director, program project grant, AM-08658-01, National Institutes of Health; and American Traveling Fellow of Great Britain.

ROGER D. KEMPERS served as member, Prenatal Clinic Committee, Zumbro Valley Medical Society.

THOMAS E. KEYS served as corresponding member on medical history, Swedish Medical Association.

JOSEPH M. KIELY served as member, Membership Committee, Central Chapter, Society of Nuclear Medicine; and member, Cancer Control Committee, Minnesota State Medical Association.

ROBERT R. KIERLAND served as president, American Academy of Dermatology, Incorporated; secretary, American Dermatological Association; honorary and corresponding membership in Israeli Dermatological Association and Norwegian Dermatological Society; member, Special Medical Advisory Group, Veterans Administration; special consultant, United States Public Health Service; consultant in Dermatology, Fifth Army; visiting professor, New York University; and visiting professor, University of Oregon Medical School.

T. J. KIRBY, JR. served as consultant in Ophthalmology, Division of Indian Health, United States Public Health Service.

J. W. KIRKLIN served as corresponding member, Deutsche Gesellschaft fur Chirurgie; member, Membership Committee, American Association for Thoracic Surgery; member, Surgery Study Section B, National Institutes of Health; member, Executive Committee, Council on Cardiovascular Surgery, member, Program Committee, member, Central Advisory Committee, Cardiovascular Section, member, Committee on Congenital Cardiac Defects, and member, Research Study Committee, American Heart Association; member, Editorial Board, *Circulation*; member, Editorial Board, *Year Book of Cardiovascular Disease*; member, Scientific Committee, Journal of French Society of Thoracic Surgery; member, National Board of Medical Examiners; member, Cardiac Program Advisory Committee, Crippled Children Services; and Balfour Lecturer and visiting professor, Department of Surgery, University of Toronto.

DONALD W. KLASS served as treasurer, American Electroencephalography Society; president, Central Association of Electroencephalographers; member, Examining Board of Certification, American Society of Electroencephalography Technicians; and member, Medical Advisory Board, Minnesota Epilepsy League.

ROBERT D. KNAPP, JR. served as editor, *Headache*, member, Nominating Committee, chairman, Committee on Constitution and By-Laws, American Association for the study of Headache; chairman, Committee on Institutional Care, Zumbro Valley Medical Society; and president, High-Noon Toastmasters Club.

GILES A. KOELSCH served as secretary, Committee on Allergy, American College of Chest Physicians; chairman, Finance Committee, American College of Allergists; and member, Steering Committee, member, Medical Education Sub-Committee; trustee, and secretary, Scientific and Educational Council.

WALTER F. KVALE served as fellow, Central Advisory Committee, American Heart Association; and received the Gold Medal for exhibit "Pheochromocytoma, a cause of Hypertension, Hypertension. Diagnosis and Surgical Treatment," American Medical Association.

EDWARD H. LAMBERT served as council member, and member, Terminology Committee, American Association of Electromyography and Electrodiagnosis; member, Medical Advisory Board, and member, Grants Committee, Myasthenia Gravis Foundation; member, Commission for Electromyography, member, Committee for Electromyography Terminology, and member, Committee for Electromyography Instrumentation, International Federation for Electroencephalography and Clinical Neurophysiology; member, Neurology B Study

Section, Division of Research Grant of the Department of Health, Education, and Welfare and United States Public Health Service; and visiting professor, Department of Physical Medicine and Rehabilitation, Ohio State University.

WILLIAM R. LANEY served as member, Budget Committee, American Cleft Palate Association; member, Membership Committee, and chairman, Educational Survey Committee, American Academy of Maxillofacial Prosthetics; program chairman, Minnesota Prosthodontic Society; and chairman, Mouth-guard Committee, Rochester Dental Society.

PAUL F. LEONARD served as member, Professional Group on Bio-Medical Electronics, Institute of Electrical and Electronic Engineers.

RONALD L. LINSCHIED received the Ghormley Award.

PAUL R. LIPSCOMB served as chairman, Section of Orthopaedic Surgery, American Medical Association; and chairman, Instructional Course Committee, and editor, Instructional Course Lectures, American Academy of Orthopaedic Surgeons; and presented the Sterling Bunnell Memorial Lecture, San Francisco.

EDWARD M. LITIN served as chairman, Committee on Mental Hospitals, and member, Committee on Remotivation, American Psychiatric Association; psychiatric consultant, Peace Corps, Washington; member, Governor's Mental Health Planning Committee on Forensics; psychiatric consultant, Ability Building Center; psychiatric consultant, Mary E. Swift Tumor Clinic and Foundation, Butte, Montana; and president, Rochester Rotary Club.

KARL A. LOFGREN served as president, Great Lakes Zone, honorary fellow, and vice regent, The Phlebology Society of America; commander, Medical Corps, United States Naval Reserve; commanding officer, Naval Reserve Medical Company 9-19; member, Committee on Military and Veterans Affairs, Minnesota State Medical Association; and chairman, Advisory Board, Salvation Army.

GEORGE B. LOGAN served as chairman, Sub-Board of Allergy, American Board of Pediatrics; chairman, Section on Allergy, member, Sub-Committee on Postgraduate Education, and chairman, District VI, American Academy of Pediatrics; member, Program Committee, American Academy of Allergy; member, Scientific and Educational Council, Allergy Foundation of America; member, Board of Directors, Sahuaro School for asthmatic children, Tucson, Arizona; and member, Committee on Child Health and Immunization, Minnesota State Medical Association.

J. GRAFTON LOVE served as member, Board of Directors, Harvey Cushing Society; council member, Society of Neurological Surgeons; and visiting professor of Neurosurgery, San Francisco, University of California.

STANLEY A. LOVESTEDT served as regent, member, Ad Hoc Committee, member, History Committee, member, Committee to Study Memberships, and member, Committee on Preparing Statement on Monetary Interest, American College of Dentists; member, Professional Relations Committee, American Academy of Oral Roentgenology; member, Committee on Research, American Society of Oral Surgeons; vice chairman, Conference Session on Radiology, American Association of Dental Schools; member, Dental Study Section, National Institutes of Health; and member, Liaison Committee, Minnesota Division, and chairman, Oral Cancer Committee, Minnesota Division, American Cancer Society; and received honorary membership in Mexican Dental Society.

HUGH B. LYNN served as member, Section Committee, chairman, Program Committee, chairman, Executive Committee, and chairman, Surgical Section, American Academy of Pediatrics.

COLLIN S. MACCARTY served as member, Executive Committee, and chairman, Nominating Committee, Neurosurgical Society of America.

FRANK T. MAHER served as vice president, Minnesota Section, Society for Experimental Biology and Medicine.

GEORGE D. MALKASIAN, JR. served as member, Program Committee, District VI, American College of Obstetricians and Gynecologists; and member, Prenatal Committee, Zumbro Valley Medical Society.

THEODORE G. MARTENS served as member, Committee on Orthoptics, Section on Ophthalmology, American Medical Association; member, Armed Forces Committee on Vision, Working Group 14: Aging and Vision, National Research Council; and member, Board of Directors, Pre-School Medical Survey of Vision and Hearing, and member, Committee on Scientific Assembly, Minnesota State Medical Association.

GORDON M. MARTIN served as secretary, Section on Physical Medicine, American Medical Association; and member, Program Committee, and member, Executive Council, American Congress of Physical Medicine and Rehabilitation.

H. R. MARTIN served as member, Rehabilitation Counseling Advisory Panel, Department of Health, Education, and Welfare; chairman, Committee on Technical Aspects of Psychiatry, Minnesota Psychiatric Society; member, Board of Directors, Southeastern Minnesota Council on Alcoholism; and member, Board of Directors, Ability Building Center, Rochester.

MAURICE J. MARTIN served as member, Southeast Regional Mental Health Coordinating Committee; and received a Certificate of Merit for exhibit "Emotional States that are Caused by Unrecognized Organic Disease," from American Medical Association.

WILLIAM J. MARTIN served as associate editor, *Minnesota Medicine*.

HAROLD L. MASON served as section editor, *Chemical Abstracts*, American Chemical Society; chairman, Awards Committee, and president, Endocrine Society; member, Board of Directors, Minnesota Academy of Science; and member, Board of Directors, and member, Executive Committee, Rochester Methodist Hospital.

JAMES K. MASSON served as vice president, Midwestern Association of Plastic Surgeons.

DON R. MATHIESON served as member, Planning Committee, member, Membership Committee, state representative, Advisory Council, inspector, Inspection and Accreditation Program, and member, Committee for Revision of Technical Manual, American Association of Blood Banks; member, Tetanus Immunization Campaign Committee, Zumbro Valley Medical Society; and member, Board of Directors, Minnesota Association of Blood Banks.

VERNON R. MATTOX served as member, Editorial Board, *Journal of Clinical Endocrinology and Metabolism*; and member, Mental Health Medical Policy Committee, State of Minnesota.

WILLIAM M. MCCONAHEY served as treasurer, American Thyroid Association.

WARREN F. MCGUCKIN served as special invitational participant, Xth Colloquium on Protein Research, presiding officer for session, and leader, Panel on Gel Electrophoresis of Serum Proteins, Brugge, Belgium; and chairman, Symposium "Automation in Chemistry," National Meeting of Association of Clinical Chemists.

DONALD C. McILRATH served as member, Candidates' Group, American College of Surgeons; and received a Howard K. Gray Travel Award in Surgery.

WALLACE A. MERRITT served as member, Committee on Medical Economics, Minnesota State Medical Association.

JOHN D. MICHENFELDER served as member, Commission of Neuroanesthesia, World Federation of Neurology.

R. DREW MILLER served as member, Advisory Board of Schools of Inhalation Therapy Council on Medical Education and Hospital, American Medical Association; vice chairman, Committee on Pulmonary Physiology, American

College of Chest Physicians; and chairman, Midwest Section, American Federation for Clinical Research.

CLARK H. MILLIKAN served as assistant secretary, American Neurological Association; vice chairman, Workshop on Cerebrovascular Disease, and representative, Section of Nervous and Mental Disease, House of Delegates, American Medical Association; member, Joint Council Subcommittee on Cerebrovascular Disease, National Heart Institute and National Institute of Neurological Diseases and Blindness; chairman, Ad hoc Advisory Group Committee, Classification and Outline of Cerebrovascular Diseases, National Institute of Neurological Diseases and Blindness; member, Editorial Board, *Annals of Internal Medicine*; chairman, Fourth Princeton Conference on Cerebrovascular Disease; visiting professor of Neurology, University of Buffalo School of Medicine; visiting professor of Neurology, Washington University School of Medicine, St. Louis, Missouri; and Nuffield lecturer, Radcliff Infirmary, Oxford, England.

EMERSON A. MOFFITT was made a fellow, American College of Anesthesiology.

GEORGE D. MOLNAR served as member, Local Postgraduate Committee, American Board of Internal Medicine; abstractor, *Diabetes*, Journal of American Diabetes Association; and chairman, Diabetes Committee, Zumbro Valley Medical Society.

GEORGE W. MORROW, JR. served as member, Selective Service Committee, County Medical Society.

DONALD W. MULDER served as neurology consultant, Lackland Air Force Base Hospital; and chairman, Program Committee, and president, Minnesota Society of Neurological Sciences.

SIGFRID A. MULLER served as member, Committee on Inter-American Affairs, American Academy of Dermatology; and official delegate, American Academy of Dermatology, Fifth Ibero-Latin American Congress of Dermatology, Buenos Aires, Argentina.

DONALD R. NICHOLS served as member, Residency Review Committee, American College of Physicians.

KENNETH N. OGLE served as member, American Committee on Optics and Visual Physiology, American Medical Association, member, Vision Research Training Committee, National Institute of Neurological Diseases and Blindness as special consultant to Public Health Service; member, Educational Advisory Committee, Educational Foundation in Ophthalmic Optics, Incorporated, American Board of Opticianry; member, Committee on Basic and Clinical Research, National Society for Prevention of Blindness; member, Organizing Committee, International Visual Science Association; member, Committee on Vision, National Research Council; member, Organizing Committee, Symposium on Normal Visual Perception, Visual Sciences Study Section, National Institutes of Health; associate editor, *Journal of the Optical Society of America*; associate editor, *Investigative Ophthalmology*; honorary editor, *Vision Research*; member, Nominating Committee for the National Medal of Science, chairman, Ives Medal Committee, and member, Adolph Lomb Medal Committee, Optical Society of America; and member, Committee to Select Proctor Award Winner, Association for Research in Ophthalmology; and received a degree of Doctor of Science *honoris causa* from Colorado College, Colorado Springs.

ARTHUR M. OLSEN served as chairman, Sub-Board in Pulmonary Disease, American Board of Internal Medicine; chairman, Board of Regents, and member, Committee on Bronchoesophagology, American College of Chest Physicians; president, American Society for Gastrointestinal Endoscopy; member, Governing Council, Mississippi Valley Conference on Tuberculosis; and president and vice president, Minnesota Tuberculosis and Health Association.

PATRICK A. ONGLEY served as member, Postgraduate Education Committee, American College of Cardiology; and member, Committee on Children with Heart Disease, American College of Chest Physicians.

ALAN L. ORVIS served as member, Public Relations and Information Committee, Midwest Chapter, Health Physics Society; and chairman, Advisory Committee on Radiological Safety, Minnesota State Board of Health.

CHARLES A. OWEN, JR. served as member, Committee on Radiation, Minnesota State Medical Association; president, Minnesota Society of Clinical Pathology; member, Editorial Board, *American Journal of Clinical Pathology*; member, Editorial Board, *Journal of Laboratory and Clinical Medicine*; and member, Editorial Board, *American Journal of Physiology*.

PASQUALE J. PALUMBO was elected to membership of Sigma Xi; and received a Postgraduate Travel Award.

EDITH M. PARKHILL served as member, Minnesota Citizens Committee for Health and Research.

THOMAS W. PARKIN served as member, Council in Clinical Cardiology, American Heart Association.

W. SPENCER PAYNE received the Howard Cramer Gray Award.

JOHN S. PEARSON served as consultant, Clinical Psychology, United States Veterans Administration, St. Paul area; member, Advisory Committee on Human Genetics, Minnesota Department of Health; director, Minnesota Human Genetics League; member, Legislative Committee, and member, Ethics Committee, Minnesota Psychological Association; director, Minnesota Council for Gifted; and general chairman, Annual Meeting, Minnesota Psychological Association.

HAROLD O. PERRY served as member, Board of Trustees, Noah Worcester Dermatological Society; and president, Minnesota Dermatological Society; and received a Billings Award for exhibit "Cutaneous Manifestations of Gastrointestinal Disease" from American Medical Association.

GUSTAVUS A. PETERS served as member, Committee on Drugs, American College of Allergy; member, Committee on College Essay, American College of Chest Physicians; member, Editorial Board, and chairman, Nominating Committee, American Association for Study of Headache.

LOWELL F. A. PETERSON served as member, Subcommittee on Examinations and Evaluations of the Academy, Committee on Graduate Education, American Board of Orthopedic Surgery.

HOWARD F. POLLEY served as member, Honorary Membership Committee, and president, American Rheumatism Association.

J. T. PRIESTLEY served as associate trustee, and national chairman, National Medical Council, University of Pennsylvania; chairman, Board of Regents, American College of Surgeons; chairman, Program Committee, Congress and Sectional Meetings, chairman, Board of Directors, chairman, Executive Committee, chairman, Finance Committee, member, Public Relations Committee, and member, Building Committee, The Franklin H. Martin Memorial Foundation; corresponding member, Deutsche Gesellschaft für Chirurgie; president, Interstate Postgraduate Medical Association of North America; diplomate, National Board of Examiners; corresponding member, Pan American Cuban Society; corresponding member, Sociedad Cubana De Gastroenterologie; and member, Society of Medical Consultants to the Armed Forces; and received an honorary membership in the British Columbia Surgical Society.

CHARLES M. REEVE served as president, Minnesota Section, International Association for Dental Research.

RICHARD J. REITEMEIER served as member, Residency Review Committee for Internal Medicine, American Medical Association.

WILLIAM H. REMINE served as member, Motion Picture Committee, American College of Surgeons; special consultant to Surgeon General of the Army; and chairman, New Members Committee, Southern Minnesota Medical Association.

HOWARD P. ROME served as member, Executive Committee, Section on Nervous and Mental Diseases, and member, Planning Commission, Second

Conference on Mental Health, American Medical Association; member, Board of Directors, Mental Health Film Board; member, Board of Directors, American Group Psychotherapy Association; member, Board of Trustees, Association for Research in Nervous and Mental Diseases; council member, American Psychiatric Association; member, Board of Directors, Minnesota Mental Health Association; president, Minnesota Society of Neurology and Psychiatry; consultant, National Association for Mental Health; consultant, Surgeon General, United States Army and Navy; member, Federal Hospital Council, Public Health Service; consultant in psychiatry, Director, National Institute of Mental Health; and member, Board of Directors, Minnesota Mental Health Association.

JAMES V. ROSS, JR. served as member, Committee on Legal Affairs and Public Information, Zumbro Valley Medical Society.

C. WILBUR RUCKER served as member, Editorial Board, *Archives of Ophthalmology*, American Medical Association; and member, Committee on Museum of Ophthalmic History, and council member, American Ophthalmological Society.

JOSEPH G. RUSHTON served as member, Committee on Nervous and Mental Diseases, Minnesota State Medical Association.

EDWARD H. RYNEARSON served as consultant, Council on Drugs, American Medical Association; and member, Committee on Medicine and Religion, Minnesota State Medical Association.

A. HOWARD SATHER served as member, Registration Committee, Midwestern Society of Orthodontists; member, Insurance Committee, Minnesota State Dental Association; member, Program Committee, and president, Rochester Dental Society; and first president and member, Membership Committee, Minnesota Society of Orthodontists.

WILLIAM G. SAUER served as member, Committee on Hereditary Aspects of Chronic Ulcerative Colitis and Regional Enteritis, American Gastroenterologic Association; member, Insurance Liaison Committee, Minnesota State Medical Association; and president, Minnesota State Automobile Association.

GEORGE P. SAYRE served as vice president, American Association of Neuro-pathologists.

ALEXANDER SCHIRGER served as member, Executive Committee, Association of Minnesota Internists; and received a Certificate of Merit for exhibit on Vascular Clues to Occult Disease from American Medical Association.

DONALD A. SCHOLZ served as chairman, Education Committee, Chamber of Commerce.

THOMAS H. SELDON served as member, Board of Trustees, International Anesthesia Research Society; editor, *Anesthesia and Analgesia—Current Researches*; chairman, Committee on Anesthesiology, and chairman, Committee on Blood and Blood Banks, Minnesota State Medical Association; and state chief, Whole Blood Program, State Civil Defense Health, Medical and Special Weapons Defense Service.

JOHN T. SHEPHERD served as member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*, American Physiological Society; member, Advisory Board, Council on Circulation, American Heart Association; and member, Executive Committee, member, Board of Directors, and chairman, Research Allocations Committee, Minnesota Heart Association.

RICHARD M. SHICK served as member, Advisory Board, Section of Circulation, American Heart Association.

ROBERT G. SIEKERT served as examiner, American Board of Neurology; member, Membership Committee, and member, Constitution and By-Laws Committee, American Academy of Neurology; president, Central Society for Neurologic Research; chairman, Membership Committee, American Academy for Cerebral Palsy; member, Clinical Research Advisory Committee, United Cerebral Palsy; member, Subcommittee on Stroke, President's Commission

on Heart Disease, Cancer and Stroke; editor, Third and Fourth Princeton Conference on Cerebral Vascular Disease, National Institute of Neurological Diseases and Blindness and the Heart Institute; member, Editorial Board, and associate editor, *Minnesota Medicine*, Minnesota State Medical Association; and visiting professor, School of Medicine, University of Kansas.

MURRAY N. SILVERSTEIN served as councilor, American Federation for Clinical Research; and visiting professor, Visiting Chief Program, Atlantic City.

KINSEY M. SIMONTON served as member, Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology; and member, Committee on Conservation of Hearing, and member, Board of Directors, Minnesota Preschool Medical Survey of Vision and Hearing, Minnesota State Medical Association.

CHARLES H. SLOCUMB served as chairman, Subsection on Rheumatic Diseases, Minnesota State Medical Association; honorary member, Wabasha County Medical Society; and member, Medical and Scientific Committee, and vice president, Minnesota Arthritis and Rheumatism Foundation.

RALPH E. SMITH served as member, Heart Council, Minnesota State Medical Association; and president, Minnesota Heart Association.

REGINALD A. SMITH served as assistant secretary, Minnesota Obstetrical and Gynecological Society.

ROBERT J. SPENCER served as member, Public Policy Committee, and member, Membership Committee, Minnesota State Medical Association; and delegate, Zumbro Valley Medical Association.

JOHN A. SPITTELL served as member, Advisory Board, Council on Circulation, and member, Council on Arteriosclerosis, American Heart Association; member, Committee on Peripheral Vascular Diseases, and member, Committee on Public Education, Second National Conference on Cardiovascular Diseases; member, Committee on Medicine and Religion, Minnesota State Medical Association; associate editor, *Peripheral Vascular Diseases, Heart Bulletin*; and received a Certificate of Merit for exhibit "Vascular Clues and Diagnosis" from American Medical Association.

RANDALL G. SPRAGUE served as regional evaluator, Residency Review Committee of Internal Medicine, American Medical Association; member, National Advisory Dental Research Council; and received an LL.D. (*honoris causa*) from the University of Toronto.

RICHARD M. STEINHILBER served as representative, Scientific Exhibit, Section of Nervous and Mental Diseases, American Medical Association; member, Committee on Public Relations, Association for Research in Nervous and Mental Diseases; member, Committee Standards and Policies of Hospitals and Clinics, American Psychiatric Association; examiner, American Board of Neurology and Psychiatry; member, Mental Health Committee, Minnesota State Medical Association; and member, Community Mental Health Review Committee, State of Minnesota; and received a Merit Award for exhibit from American Medical Association.

JAMES R. STEWART received the Carman Award.

GUNNAR B. STICKLER served as visiting faculty member, Postgraduate Course for Pediatrics, Columbus, Ohio.

J. MINOTT STICKNEY served as delegate, American Medical Association; and investigator, Acute Leukemia Group B, National Institutes of Health.

G. KEITH STILLWELL served as member, Board of Governors, American Academy of Physical Medicine and Rehabilitation; member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*; member, Medical Advisory Committee, American Rehabilitation Foundation; member, Board of Directors, Elizabeth Kenny Foundation; and member, Advisory Committee, Minnesota Division of Vocational Rehabilitation.

GEORGE G. STILWELL served as member, Board of Editors, *American Journal of Clinical Pathology*, American Society of Clinical Pathologists; chairman, Board of Trustees, member, Executive Committee, and president, American Medical Writers' Association; and member, Board of Editors, *Minnesota Medicine*, Minnesota State Medical Association.

CHARLES F. STROEBEL served as member, Executive Committee, Minnesota Society of Internal Medicine.

WILLIAM H. J. SUMMERSKILL served as member, Olmsted County Civil Defense, St. Mary's Hospital; visiting professor, School of Medicine, University of Colorado; and visiting professor, University of Cincinnati Medical School.

HENDRIK J. SVIEN served as chairman, Committee for Study of Expenditure of Excess Funds, Harvey Cushing Society.

HAROLD J. C. SWAN served as member, Advisory Council, Circulation Section, American Physiological Society; member, Special Projects Committee, and member, Steering Committee, Cooperative Study on Cardiac Catheterization, National Institutes of Health.

WENDELL M. SWENSON served as chairman, State Board of Examiners for Psychologists; member, Governor's Advisory Committee; member, Board of Directors, Minnesota Association for Mental Health; vice president, Board of Directors, Senior Citizens Service, Rochester; member, Advisory Board, Minnesota Project on Protestant Lay Theology; and director, Annual Institute on Aging, Gustavus Adolphus College, St. Peter.

W. N. TAUXE served as member, Council on Radioisotopes, American Society of Clinical Pathologists; consultant, Medical Division, Oak Ridge Institute of Nuclear Studies; and secretary-treasurer, Central Chapter, Society of Nuclear Medicine.

HOWARD R. TERRY, JR. served as alternate director, Minnesota Society of Anesthesiologists; and secretary, Commission of Neuroanesthesia, World Federation of Neurology.

RICHARD THEYE served as member, Committee on Anesthesia, National Research Council.

JUERGEN E. THOMAS served as secretary-treasurer, American Association of Electromyography and Electrodiagnosis.

JAN H. TILLISCH served as member, Committee on Aerospace Medicine, member, Council on Occupational Health, and member, Editorial Board, *Archives of Environmental Medicine*, American Medical Association; member, Board of Preventive Medicine; member, Medical Committee, International Air Transport Association; member, Advisory Editorial Board, *Aerospace Medicine*; consultant to Surgeon General, United States Air Force; member, Advisory Medical Council, Civil Air Surgeon, Federal Aviation Agency; and member, Judicial Committee, Minnesota State Medical Association; and received the Walter M. Boothby Award from Aerospace Medical Association.

E. G. TURLINGTON served as member, Committee on Hospital Dental Service, Minnesota State Medical Association; and member, Local Arrangements Committee, member, Nominating Committee, and member, Program Committee, Minnesota Society of Oral Surgeons.

ALFRED UIHLEIN served as chairman, Membership Committee, Harvey Cushing Society.

JOHN A. ULRICH served as member, Standards and Examination Committee, Public Health and Medical Laboratory Mycology, American Board of Microbiology; chairman, Bacteriology Study Section, National Institutes of Health; visiting professor, University of Texas Medical School; and president, North Central Branch, American Society for Microbiology.

LAURENTIUS O. UNDERDAHL served as secretary, member, Executive Committee, council member, chairman, Committee on Constitution and By-Laws, and member, Committee on Policy, American Diabetes Association; chair-

man, Committee on Diabetes, and delegate, Minnesota State Medical Association; member, Executive Committee, Minnesota Society of Internal Medicine; and member, Executive Committee, Zumbro Valley Medical Society.

DAVID C. UTZ served as assistant secretary, Urology Section, American Medical Association; and delegate, Zumbro Valley Medical Society.

MARTIN VAN HERIK served as member, Publications Committee, American Radium Society; member, Committee on Medical Care Insurance Plans, American College of Radiology; member, Subcommittee on Radiation Therapy, Adjuvant Studies in Cancer of the Endometrium, United States Public Health Service; member, Medical Services Committee, and alternate, House of Delegates, Minnesota State Medical Association; and member, Relative Value Committee, and member, Blue Shield Committee, Minnesota State Radiological Society.

DANIEL E. WHITE served as president, Iowa Society of Oral Surgeons; member, Committee on Professional Information, American Cancer Society; member, Examining Board, and member, Advisory Committee, American Board of Oral Surgery; and was assigned to Project HOPE II in Peru.

KHALIL G. WAKIM served as member, Editorial Board, *American Journal of Physical Medicine*; member, Circulation Section, American Physiological Society; consultant, Army Medical Center, Walter Reed Hospital; and consultant, Surgeon General, Basic Medical Education, Armed Forces.

LOUIS E. WARD served as member, Editorial Board, member, Rheumatism Review Board, and member, Executive Committee, American Rheumatism Association.

CHARLES H. WATKINS served as member, Advisory Board, National Foundation for Leukemia; and assistant editor, *Cancer Yearbook*.

LYLE A. WEED served as member, Council on Microbiology, American Society of Clinical Pathologists; member, Editorial Board, *American Journal of Clinical Pathology*; and consultant in Pathology, United States Army Biological Warfare Laboratories.

WILLIAM H. WEDDMAN served as council member, Midwest Society for Pediatric Research; member, Committee on Congenital Heart Disease, and member, Council of Rheumatic Fever and Congenital Heart Disease, American Heart Association; and delegate, Minnesota State Medical Association.

WILLIAM E. WELLMAN served as councilor, First District, chairman, Finance Committee, and co-chairman, Committee on Aging, Minnesota State Medical Association; member, Executive Committee, Zumbro Valley Medical Society; and member, Governor's Council on Aging.

JACK P. WHISNANT served as member, Membership Committee, American Academy of Neurology; and president, Central Society for Neurological Research.

MARVIN M. D. WILLIAMS served as guest examiner, secretary, Physics Credentials Committee, and member, Committee to Recommend Requirements in Radiation Therapy, American Board of Radiology; alternate member, Council of AMU, Argonne National Laboratories; member, Subcommittee 6, National Committee on Radiation Protection; chairman, Physics Committee, chairman, Associated Sciences Committee, and member, Program Committee, Radiological Society of North America; second vice president, and member, Executive Committee, American Radium Society; member, Curriculum Committee, American College of Radiology; member, Board of Directors, chairman, Constitution Review Committee, vice president, president, and member, Ethics Committee, American Association of Physicists in Medicine; and visiting professor, Department of Radiology, School of Medicine, Wayne State University.

ROBERT B. WILSON served as associate examiner, American Board of Obstetrics and Gynecology; president, American Society for the Study of Sterility; chairman, Membership Committee, and member, Nominating Committee, Central Association of Obstetricians and Gynecologists; assistant secre-

tary, American Association of Obstetricians and Gynecologists; member, Committee of Industrial Exhibits, American College of Obstetricians and Gynecologists; and chairman, Prenatal Clinic Committee, Zumbro Valley Medical Society.

RICHARD K. WINKELMANN served as member, Program Committee, and member, Board of Directors, Society for Investigative Dermatology; associate editor, *Journal of Investigative Dermatology*; member, Research Committee, American Dermatologic Association; member, Committee on the Cutaneous System, National Research Council; chairman, Program Committee, American Association of Dermal Pathologists; delegate, Minnesota State Medical Association; and visiting professor at Wayne University, Stanford University, and the University of Virginia; and received two Certificates of Merit from American Medical Association and a Gold Medal from American Academy of Dermatology.

EARL H. WOOD served as member, Executive Committee Circulation Group, American Physiological Society; member, Executive Committee, Basic Science Council, American Heart Association; member, Editorial Boards, *Circulation*, *Circulation Research*, *American Journal of Physiology*, *Journal of Applied Physiology*, and *Aerospace Medicine*; member, Working Group on Gaseous Environment, Man in Space Committee, National Academy of Science; member, Ad hoc Medical Advisory Panel, National Aeronautics and Space Administration; member, Research Career Awards Committee, National Institute of General Medical Sciences, and member, Anatomy and Physiology Fellowship Review Panel, National Institutes of Health; member, White House Bioastronautics Committee, President's Scientific Advisory Committee; member, Medical Advisory Group, Mannes Orbital Laboratories, United States Air Force; member, Biodynamics Committee, Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization; and member, Board of Directors, Minnesota Heart Association; and received the Modern Medicine Award, the American Medical Association Award, and the Aerospace Medicine Award (Eric Liljencrantz Award).

LEWIS B. WOOLNER served as consultant, International Academy of Gynecological Cytology; member, Council on Miscellaneous Topics, American Society of Clinical Pathology; vice president and councilor, Minnesota Society of Clinical Pathology; and member, visiting faculty, Johns Hopkins University Course, Baltimore.

ROBERT E. YOSS served as member, Auditing Committee, American Academy of Neurology.

HENRY H. YOUNG served as vice chairman, Board of Trustees, *Journal of Bone and Joint Surgery*; and editor, *Yearbook of Orthopedic, Traumatic, and Plastic Surgery*.

PAUL E. ZOLLMAN served as veterinary adviser, Simian Society of America, Incorporated; secretary, Southeastern Minnesota Veterinary Medical Society; chairman, Agricultural Committee, Rochester Chamber of Commerce; state president and state director, Izaak Walton League; director, Olmsted County Fair Board; president and director, Upper Midwest Animal Care Panel.

Bureau of Institutional Research

CLOYCE E. SMITH served as director, School Board, Columbia Heights.

JOHN E. STECKLEIN served as member, Institute on Institutional Research, South Regional Education Board; chairman, Accrediting Teams, North Central Association; chairman, Research Staff, Liaison Committee on Higher Education in Minnesota.

Office of International Programs

WILL M. MYERS served as science adviser, Latin America Assistance Administration, Agency of International Development; chairman, Committee on

Agricultural Science, United States Department of Agriculture; member, Foreign Policy Council, and chairman, Latin America Board, National Academy of Sciences and National Research Council; member, Board of Consultants, Rockefeller Foundation; member, United States National Commission on United Nations Educational, Scientific and Cultural Organization, United States Department of State; and received a merit certificate from the American Grassland Council; and the Honorary Premier Seed Grower Award from Minnesota Crop Improvement Association.

Law School

CARL A. AUERBACH served as consultant, Bolivia, Agency for International Development; and member, Joint Committee, Political Science and American Law Schools Association. He also received a fellowship from the Institute on Economics of Public Utility Regulation, American Telephone and Telegraph Company.

JESSE H. CHOPER served as state reporter, Legal Representation for Indigent Persons, American Bar Foundation.

JOHN J. COUND served as reporter, Trial Judges' Seminar, American Bar Foundation; and member, Law School Admissions Test Council, Educational Testing Service.

BRUNO H. GREENE served as President, Minnesota Law Library Association; participant, Comparative Law Conference, Columbia University; United States delegate, World Educators Conference, International Red Cross; and member, Committee on Foreign Law, Conference, American Association of Law Libraries.

JAMES L. HETLAND, JR. served as visiting professor, School of Law, University of California at Berkeley; chairman, Planning Committee, Continued Education of Bar, Hennepin County Bar Association; chairman, Committee, Association of American Law Schools; member, Advisory Committee, Minnesota Supreme Court; secretary, Judicial Council of Minnesota; member, Minneapolis Charter Committee, City of Minneapolis; and reporter, Minnesota Judicial Seminar, and reporter, Jury Instruction Guides, Minnesota District Court Judges Association.

JAMES F. HOGG served as visiting professor, Columbia University; chairman, Committee, Association of American Law Schools; and member, Rapporte American Branch Committee, Charter of the United Nations, International Law Association.

STANLEY V. KINYON served as project supervisor, Uniform Commercial Code, Minnesota State Bar Association; member, Audio-Visual Facilitation, Association of American Law Schools; and consultant, Legislative Hearings, Uniform Commercial Codes, Minnesota Legislature.

ROBERT J. LEVY served as member, Farm Law Committee, and chairman, Farm Law Round Table, Association of American Law Schools.

WILLIAM B. LOCKHART served as member, Committee on Legal Education, member, Committee on Needed Legal Assistance, and chairman, Nominating Committee, Association of American Law Schools.

ALLAN H. MCCOID served as secretary, participant, Midwinter Lab Institute, participant and speaker, Fall Institute Labor, and participant and speaker, Annual Meeting Institute, Lab Section, Minnesota State Bar Association; participant, Auto Compensation Study, Harvard Law School; adviser to reporters, Restatement, Torts, American Law Institute; member, Committee on Law and Medicine, and participant, Torts Round Table, Association of American Law Schools; and member, Joint Committee, Association of American Law Schools and Association of American Medical Colleges.

TERRANCE SANDALOW served as associate reporter, Project on the Public Control of Land Use and Development, American Law Institute.

College of Liberal Arts

Administration

MAXWELL E. ALVORD served as member, Steering Committee, Federal College Council; committee member, State Legislature Liaison, Minnesota College Placement Association; member, State Legislature Liaison, Midwest College Placement Association; and member, Steering Committee, Minneapolis Chamber of Commerce.

ROGER B. PAGE served as member, High School-College Relations Committee, Minnesota Association of Colleges.

MABEL K. POWERS served as chairman, Sub-Committee on Liberal Arts Curriculum, Southwestern State College Curriculum Committee, State of Minnesota College Board.

JAMES B. PREUS served as vice president, Board of Directors, Civic Orchestra of Minneapolis.

E. WILLIAM ZIEBARTH served as president, National Association of Deans and Directors; member, Board of Directors, Public Health Association; and member, Minnesota College-Federal Council; and received the Educational Contributions Award of the American Academy of Speech.

Department of Anthropology

RICHARD E. W. ADAMS served as lecturer, XXXV International Congress of Americanists, Harvard University.

LUTHER P. GERLACH served as consultant and lecturer, Defense Intelligence School, Defense Intelligence Agency, Department of Defense; and received the American Men of Science Award.

JAMES L. GIBBS served as academic director, Far East Workshop for Foreign Student Advisers, National Association for Student Advisers; and received a post-doctoral research training fellowship, Social Science Research Council.

E. ADAMSON HOEBEL served as member, Behavioral Science Board, National Institutes of Health—General Medical Science.

O. ELDEN JOHNSON served as chairman, Annual Meeting, American Anthropological Association; and received a Ford Area Fellowship.

RUPERT I. MURRILL served as program chairman, Physical Anthropology, American Association of Anthropology.

LADISLAV P. NOVAK served as Research Coordinator, Institute of Nutrition for Central America and Panama; and received two postdoctoral fellowships from the United States Department of Public Health.

PERTTI J. PELTO served as consultant, Upper Mississippi Research Project Committee, Upper Mississippi Mental Health Center; and received grants from the National Institute of Mental Health and from the American Council of Learned Societies.

ROBERT F. SPENCER served as member, Governor's Human Rights Committee, State of Minnesota; chairman, Society for Scientific Study Relationships; editor, Minnesota Academy of Science; and coordinator, Institute for International Education.

Department of Art

PETER BUSA served as panel chairman for Art in the Community, Minneapolis Institute of Art; and consultant, National Committee for Art Education; and received the Ford Foundation Award in painting, Walker Art Center.

ALLEN DOWNS received first place award for a film from Contemporary Cinema; and received a Hill Foundation Grant.

JEROME LIEBLING served as invited participant, "An International Exhibition of Photography," New York State Exposition and George Eastman House of Photography; and photographic consultant and photographer, Secretary of State, State of Minnesota; and received a Hill Foundation Grant and a Health, Education, and Welfare Grant.

WARREN D. MACKENZIE served as juror, Craft Exhibition of Milwaukee, Wisconsin State Fair; and juror, Fiber, Clay, and Metal, St. Paul Gallery.

FREDDY M. MUNOZ received second prize in painting, Third Minnesota Artists Biennial, Minneapolis Art Institute.

MALCOLM H. MYERS served as juror, Red River Annual National Painting Exhibition.

KATHERINE NASH received an honorary doctorate from Doane College.

WALTER W. QUIRT served as artist-in-residence, Wichita Museum of Art; representative, Greer Gallery, New York City; and received the Ford Foundation Purchase Award.

RICHARD K. RANDELL served as technical consultant, Art Craft Bronze Company, Racine Foundry and Manufacturing Company; and received the Ford Foundation Purchase Award.

JOHN ROOD served as national president, Artists Equity Association; president, Society of Minnesota Sculptors; artist laureate, Delta Phi Delta; and session chairman, Wingspread Conference, Johnson Wax Foundation; and received the Ford Foundation Purchase Award.

DONALD R. TORBERT served as member, Governor's Board, American Studies Association, Minnesota and the Dakotas.

DIMITRI T. TSELOS served as board member, Collegiate Art Association of America; and received a Fulbright Research Grant.

Department of Botany

ERNST C. ABBE received a National Science Foundation Research Grant.

A. ORVILLE DAHL served as chairman, Section on Fine Structure, Tenth International Botanical Congress, University of Edinburgh; and participant, Atmospheric Biology Conference, National Aeronautics and Space Administration; and received a research grant from NASA.

ALBERT W. FRENKEL served as chairman and lecturer, Symposium Talk, Midwest Section, American Society of Plant Physiology.

EVILLE GORHAM received a National Science Foundation Research Grant.

DONALD B. LAWRENCE served as member, Board of Directors, Minnesota Academy of Sciences; member, Research Committee, International Geophysical Year World Data Centennial, American Geographic Society; committee chairman, Winger Savanna Management, Nature Conservancy Conference; and member, Committee for Selection of American Academy for the Advancement of Science fellows, Ecological Society of America; and received a Fulbright Award.

GERALD B. OWNBEY received a National Science Foundation Grant.

Department of Classics

NORMAN J. DEWITT served as participant, Oak Ridge Conference on Science and the Humanities.

MARGARET M. FORBES served as member, Program Committee, Minnesota Classical Conference at Gustavus Adolphus College; member, Executive Board, Minnesota Classical Conference; member, Executive Board and Scholarship Committee, Vergilian Society of the USA; and board member, American Classical League.

WILLIAM McDONALD served as board member, American School of Classical Studies.

ROY A. SWANSON served as member, Board of Directors, Bolingbroke Society, Incorporated.

Department of Economics

ARTHUR M. BORAK served as president, Phi Beta Kappa.

OSWALD H. BROWNLEE served as member, Highway Research Board.

JOHN A. BUTTRICK was awarded a Fulbright Professorship to the University of Tokyo.

JOHN S. CHIPMAN received a National Science Foundation grant.

EDWARD M. FOSTER spent a year in Colombia, South America with the Minnesota-Aid Project to establish an M.A. program in economics.

JOHN C. HAUSE served as consultant to the Institute for Defense Analysis.

WALTER W. HELLER served as chairman, President's Council of Economic Advisors, Washington; and received an Honorary Doctor of Laws degree from Oberlin College.

RALPH H. HOFMEISTER served as consultant, Center for International Studies, Massachusetts Institute of Technology.

LEONID HURWICZ received grants from the Ford Foundation Faculty Research Fellowships and the National Science Foundation.

JOHN H. KAREKEN served as chief, Domestic Financial Analysis, Office of Secretary of the Treasury; consultant, Federal Reserve Bank of Minneapolis; consultant, Board of Governors, Federal Reserve System; and treasury department representative to working party of the Organization for Economic Cooperation and Development, Paris, France.

HANS J. KREYBERG, visiting professor from Norway, served as a discussant, European and Boston meetings of the Econometric Society; and associate editor of *Econometrica*, Econometric Society.

E. SCOTT MAYNES served as member, Household Sub-Committee, Wealth Inventory Committee, George Washington University; consultant, Tax Cut Study, Survey Research Center; consultant, Wisconsin Consumption Study, Social Systems Research Institute, University of Wisconsin; and consultant, United States Bureau of Census.

HERBERT MOHRING served as discussant, Conference on Transportation, National Bureau of Economic Research.

G. H. PERRY served as member, President's Council of Economic Advisors, Washington.

JACOB SCHMOOKLER served as visiting lecturer, Harvard University; consultant, Battelle Memorial Institute; and member, Recipient of Research Funds Committee, Economics of Technological Change, Ford Foundation.

NORMAN J. SIMLER served as Senior Economist, Council of Economic Advisors, Washington, D.C.; and member, Planning Committee, White House Conference on Unemployment, President's Labor-Management Advisory Committee; and received a Ford Foundation Faculty Research Fellowship.

JOHN G. TURNBULL served as chairman, Fair Employment Practices Commission, St. Paul; and member, Governor's Advisory Council on Unemployment Compensation, State of Minnesota; and received a Ford Foundation Faculty Research Grant.

Department of English

HAROLD B. ALLEN served as member, Executive Committee, member, Commission on English Language, member, Committee on Censorship Studies,

chairman, Editorial Advancement Board, chairman, Advancement Council, chairman, Conference on Speech and English, evaluator, Conference on College Composition and Communication, and tour director to Europe, National Council of Teachers of English; member, Advisory Board, Teaching of English as a Foreign Language (Curriculum project of United States Office of Education and Council for Better Schools); member, National Advancement Council, and member, National Council of Teaching English as a Foreign Language, Center for Applied Linguistics; member, Subcommittee on Linguistics, Committee on Institutional Cooperation; chairman, Language Arts Advancement Committee, Minnesota State Board of Education; secretary, General Phonetics Group, and chairman, Conference on English Language, Modern Language Association; director, Status Study of Teaching of English as a Foreign Language, co-director, Minnesota Project on English, planner, Conference on National Defense Education Act Institutes, member, National Defense Education Act Institute Evaluation Committee, United States Office of Education; member, Advisory Board, *American Speech*; member, Liaison Committee, National Council of Teachers of English and Speech Association of America; member, Executive Committee, American Dialect Society; and chairman, Minnesota Group for Linguistics.

HUNTINGTON BROWN served as trustee, Cornelia Latin Grammar School, St. Paul.

JOHN W. CLARK served as member, Leadership Training Program, North Central Association of Colleges and Secondary Schools.

RICHARD J. FOSTER served as Honors Examiner, Macalaster College; and received a McKnight Foundation Grant for summer research and writing and a Taddo Residence for writing.

CLIFFORD I. HAGA served as consultant, University Contract Program with Corps of Engineers to prepare training programs; workshop leader, Management Training Program, Registry Office, Small Business Administration; seminar leader, Manuals Seminar, American Management Association; and seminar leader, Management Seminar, Management Club, Northwest Airlines.

JOHN D. HURRELL served as representative, Annual Conference, Association of Literary Magazines.

DAVID E. JONES served as associate editor, *Drama Survey*; host and director, Minnesota Theater of the Air, KUOM; and founder-director, Readers' Theatre, Minneapolis Public Library.

JACOB C. LEVENSON served as member, Committee of Consultants, Biographical Dictionary, Radcliffe College; director, American Literature Program, English Institute; and conference chairman, International Fulbright-Hayes Seminar in American Studies, United States Department of State.

SAMUEL HOLT MONK served as member, Executive Council, Modern Language Association of America; and visiting professor, University of California at Berkeley; and received an honorary degree from Southwestern University at Memphis.

FRAZ J. MONTGOMERY served as member, Regional Selection Committee, Woodrow Wilson Fellowships.

GORDON W. O'BRIEN received a Resident Fellowship from Folger Shakespeare Library.

G. ROBERT STANGE served as member, Fellowship Selection Committee, American Council of Learned Societies; representative, Woodrow Wilson National Fellowships Foundation; editorial adviser, *Victorian Poetry*; and adviser, Nominating Committee, Group 10, Modern Language Association of America.

MARTIN STEINMANN, JR. served as member, Workshop on Rhetoric, College Conference on Composition and Communication; and advisory editor in freshman English, Charles Scribner's Sons.

ALLEN TATE served as delegate, Conference on the Arts, United Nations Educational, Scientific, and Cultural Organization; seminar fellow, Indiana

School of Letters; honorary fellow, American Academy in Rome; and member, National Institute of Arts and Letters; and received the Medaglia Doro Di Societa Dante in Florence, Italy; a \$5,000 award from the Academy of American Poets; and an honorary degree from Carleton College.

MARY C. TURPIE served as president, American Studies Group, Minnesota and the Dakotas.

LEONARD H. UNGER received a Fulbright Professorship in American Literature to the University of Athens.

SARAH H. YOUNGBLOOD served as editor of *Abstracts of English Studies*, National Council of Teachers of English; and made a television film for the Commission on English television project.

Family Study Center

JOAN ALDOUS served as representative, Collaborative Project on Cerebral Palsy, Mental Retardation and other Neurological and Sensory Disorders of Infancy and Childhood, National Institute of Neurological Diseases and Blindness, United States Public Health Service; and received grants from the Institute of Life Insurance and the National Institute of Mental Health.

Department of Geography

WARD J. BARRETT served as member, Committee on Climatology, Association of American Geographers; and received a Ford Foundation research award.

JOHN R. BORCHERT served as Urban Research Director of the Upper Midwest Economic Study; chairman, Advisory Committee, Minnesota Department of Education; consultant, Minnesota Outdoor Recreation Resources Committee; and consultant, U.S. Senate Committee on Employment and Manpower.

JAN O. M. BROEK served as member, Committee for Awards for Participation in the International Geographical Congress, chairman of program, Historical Geography, Annual Meeting, and chairman, Honors Committee, Association of American Geographers; and member, Board of Directors, Society for Economic and Social Geography; and was made a corresponding member of the Royal Netherlands Geographic Society.

FRED E. LUKERMANN received a grant from the Hill Foundation; and served as member, Big Ten Faculty Field Research Seminar in Geography.

EUGENE C. MATHER served as member, Cultural Geographic Committee, Association of American Geography; Leden correspondent, Neder Vereniging; and co-chairman, Big Ten Faculty Seminar, chairman, Committee of Big Ten Geography, and co-leader, Tri-State Field Seminar, Committee for Institutional Cooperation.

PHILIP W. PORTER received grants from the National Science Foundation and the National Institute of Mental Health.

JOHN W. WEBB received a research grant from the American Council of Learned Societies; and served as delegate, International Geographical Congress.

Department of German

HERMAN RAMRAS received an invitation by the Government of the Federal Republic of Germany to be its guest on a study visit to West Germany.

FRANK D. HIRSCHBACH served as president, Minnesota Chapter, and director, Testing Programs in Minnesota, American Association of Teachers of German; and program chairman, Midwest Modern Language Association.

WOLFGANG F. TARABA served as editor, German book series, Johnson Reprint Corporation of New York.

GERHARD H. WEISS served as director, National Defense Education Act Summer Institutes, United States Office of Education; and editor, Humanities Monograph Series, University of Minnesota.

CECIL WOOD served as president, Society for the Advancement of Scandinavian Studies; and co-editor, *General Linguistics*.

FRANK WOOD served as member, Research Committee, Arthur Schnitzler Gesellschaft; and member, Hoelderlin Gesellschaft.

Department of History

JOSEF L. ALTHOLZ received a Guggenheim Foundation Fellowship.

W. DONALD BEATTY served as program consultant, Latin American series, The Study Club of Minneapolis; and program consultant, Latin American Series, Northrop Collegiate School; and received a Ford Foundation Grant.

ROBERT F. BERKHOFER served as member, Advancement Committee on Social Studies, State Department of Education; staff member, Project on Social Studies, United States Office of Education; member, Panel on Educational Research and Development, United States Office of Science and Technology; and member, Executive Board, Upper Midwest American Studies Association; and received a McKnight Foundation Humanities Award.

CLARKE A. CHAMBERS served as president, Social Welfare Historical Group; chairman, Advisory Committee, Federal Social Security Administration; and session chairman, Convention of Mississippi Valley Historical Association.

HAROLD C. DEUTSCH served as visiting professor, Free University of Berlin; and speaker and consultant, Annual Consultant Week, and participant, National Strategy Seminar, Army War College; and received the Bundes Verdienst Kreuz, Federal Republic of Germany.

RALPH E. GIESEY served as University of Minnesota representative, Conference in London, Anglo-American Conference on History; and received a grant from the Rockefeller Foundation.

ROBERT S. HOYT served as program chairman, Annual Convention, Midwest Medieval Conference; and council member, Annual Convention, Medieval Academy of America.

PHILIP D. JORDAN served as member, Board of Editors, *The Historian*, Phi Alpha Theta; and member, Planning Committee, Conference on History Teaching, American Historical Association; and was made an honorary citizen of Moln, Germany.

RODNEY C. LOEHR served as board chairman, Agricultural Historical Society; and received an honorary citation from the United States Navy and a commendation medal from the United States Army.

PAUL L. MURPHY served as member, Committee on Legal History, and Minnesota chairman, Committee to Collect Basic Quantitative Data of American Political History, American Historical Association; consultant, and conference participant, University of Wisconsin Institute for the Advanced Study of Organization Science; and member, Board of Editors, Wisconsin Historical Society Press.

DAVID W. NOBLE served as president, American Studies Association for Minnesota and the Dakotas.

DARRETT B. RUTMAN received the McKnight Foundation Humanities Award.

TIMOTHY L. SMITH served as arrangements chairman, Conference on Education on Iron Range, and researcher, Immigrant Archives Project, Fund for the Advancement of Education.

T. G. STAVROU served as researcher, Immigrant Archives Project, Fund for the Advancement of Education.

BURTON STEIN served as member, South Asia Committee, Association of Asian Studies.

ROMEYN TAYLOR served as contributor, Ming Biography Historical Project, Association of Asian Studies.

DAVID H. WILLSON served as commentator and chairman, Minneapolis Conference, Upper Midwest Conference of Historians; and received fellowships from the Social Science Research Council and the Guggenheim Memorial Foundation.

JOHN B. WOLF served as chairman, Modern European History Section, American Historical Association.

WILLIAM E. WRIGHT received a Fulbright Research Grant; and served as applicant interviewer for the Committee to Select Austrian Fulbright Grantees, United States State Department.

Interdisciplinary Programs

GEORGE AMBERG served as chairman, Panel on Mass Culture, College Art Association; producer and director, six films on the Cinema, KTCA-TV; trustee, International Film Seminars; and member, Advisory Board, Creative Film Foundation.

JOHN BERRYMAN served as visiting professor, Brown University; visiting professor, Breadloaf School of English; fellow and lecturer, Indiana School of Letters. He gave a reading at National Poetry Festival, Library of Congress. He received the Loines Award in Poetry, National Institute of Arts and Letters; the Ingraham-Merrill Foundation Fellowship; the Chicago Daily News Poetry Prize; the first prize poetry award of the magazine *Ramparts*; and an Honors M.A. from the University of Cambridge.

DAVID COOPERMAN served as member, Second Inter-University Conference on the Negro in Higher Education, Committee on Institutional Cooperation, Conference on Human Rights.

MARK A. GRAUBARD served as visiting professor, San Francisco State College; guest lecturer, Stanford University; and guest lecturer, University of the West Indies.

JOSEPH J. KWIAT served as guest professor, University of Innsbruck, Austria; guest professor, University of Urbino, Italy; interviewer, Selection Committee, Fulbright Committee; interviewer, American Field Service, United States Information Service; and member, Advisory Committee on American Studies and Screening Committee on American Literature, Committee on International Exchange of Persons, Conference Board of Associated Research Councils, Fulbright-Hayes.

PHILIP SIEGELMAN served as panel participant, Conference on three Indian Universities, United States Information Service; and received a Faculty Research Fellowship and a Ford Foundation Supplementary Support Grant from the American Institute of Indian Studies.

Department of International Relations and Area Studies

SAMUEL M. BURKE received the Star of Pakistan from the President of Pakistan.

School of Journalism

ROY E. CARTER served as visiting Fulbright professor at the University of Chile, South America; chairman, Committee on Endowment, Association for Education in Journalism; consultant, National Science Foundation; Minnesota delegate, Northwest Europe and United States, National Committee for United Nations Educational, Scientific, and Cultural Organization; and research consultant, Braden Copper Company.

MITCHELL CHARNLEY served as chairman, Ethics and Standards Committee, Radio-TV News Directors Association; and panel participant, Association for

Education in Journalism; and received the Distinguished Service Achievement Award from the Radio-TV News Directors Association.

W. EDWIN EMERY served as member, Executive Committee, Committee on Historical Press, International Congress on Historical Science; member, American Council for Education in Journalism, member, Historical Journalism Committee, and editor, Association for Education in Journalism; member, Education Committee, National Conference of Educational Writers; member, Educational Committee, Minnesota Press Club; and member, Research Award Committee, Kappa Tau Alpha.

ROBERT L. JONES served as president, American Association of Schools and Departments of Journalism; member, Steering Committee, W. R. Hearst Foundation Journalism Awards; member, Advisory Editorial Board, *Journalism Quarterly*, Association for Education in Journalism; board member, Advisory Board—Minnesota Poll, Minneapolis *Star* and *Tribune*; and chairman, Journalism Seminars, Newspaper Fund, Incorporated.

FRED L. KILDOW served as director, Associated Collegiate Press; director, National Scholastic Press Association; associate editor, *Scholastic Editor*; and publisher, *Scholastic Roto*; and received an award for thirty-five years service to Scholastic Journalism from the Minnesota High School Press Association.

ROBERT G. LINDSAY served as member, Board of Directors, and member, Educational Committee, Minnesota Press Club; member, Board of Directors, and member, Career Information Committee, Radio-TV News Directors Association; session chairman, Committees on Analysis, Association for Education in Journalism; judge, Page One Awards, Newspaper Guild; examiner, Information Writer Examination Board, Minnesota Civil Service; planner, Annual Short Course, North-West Broadcasting News Association; and visiting lecturer, University of Wisconsin.

RAYMOND B. NIXON served as president, International Association for Mass Communication Research, United Nations Educational, Scientific and Cultural Organization.

JOHN C. SIM served as conference manager, Association of College Press; panelist, Minnesota Educational Association; and judge, Newspaper Contests, North Carolina Press Association.

HAROLD W. WILSON served as chairman, Graphic Arts Committee, Association for Education in Journalism.

Library School

D. K. BERNINGHAUSEN served as consultant, National Taiwan University, American Library Association; and received the Drake University Alumni Distinguished Service Award.

NANCY J. FREEMAN served as recorder, Conference within a Conference, American Library Association.

E. W. McDIARMID served as chairman, Minnesota Committee for United Nations Educational, Scientific and Cultural Organization; and president, Association of Minnesota Colleges.

RAYMOND H. SHOVE served as chairman, Archives Committee, Association of American Library Schools.

WESLEY C. SIMONTON served as secretary-treasurer, Association of American Library Schools; consultant representing AALS, Catalog Code Revision Committee, and chairman, Cataloging and Classification Section, American Library Association; member, Committee on the Simonton Study of Bibliographical Control of Microfilms, Association of Research Libraries; and consultant, Research Library, IBM.

FREDERICK WEZEMAN served as member, Architecture Committee, American Library Association; planned and moderated meetings, Minnesota-Wis-

consin Library Administrators Round Table; and moderated Library Extension Workshop, State Library Division, Minnesota.

Department of Mathematics

GLEN E. BAXTER served as organizer, Conference Toeplitz Forms, United States Air Force.

ROBERT H. CAMERON served as participant, International Congress on Mathematics, Stockholm, Sweden.

BERNARD R. GELBAUM served as consultant, Classified Material, Melpar, Incorporated.

GERHARD K. KALISCH served as visiting mathematician, University of Paris; and member, Advisory Committee, Science of Mathematics, State Board of Education.

WARREN S. LOUD served as editor, Society for Industrial Applied Mathematics.

STEVEN OREY served as member, Program Committee, Statistics Meetings, Institute of Mathematical Statistics.

Department of Music

DOMINICK J. ARGENTO served as consultant, Advisory Committee, Center Opera Company, Walker Art Center; and received a Guggenheim Foundation Fellowship.

FRANK BENCRISSUTTO served as adjudicator, Big Nine Festival, Big Nine Association; adjudicator, Festival, Southwest Minnesota Conference; general manager, Regional State Music Contest, Minnesota Public School Music League; and chairman, College Band Directors National Association.

JOHANNES U. DAHLE served as adjudicator, State Regional Music Festival, Minnesota Public Schools.

PAUL FETLER received a Ditson Award from the Alice M. Ditson Fund.

HEINRICH FLEISCHER served as member, Executive Board, judge, Twin Cities Chapter, and examiner at large, National Headquarters, American Guild of Organists; judge, Organ Contest, Northwestern University; and Judge, Minnesota Music Teachers Association organ contests.

PAUL R. KNOWLES served as member, Metropolitan Opera National Council.

ROBERT T. LAUDON served as president, Minnesota Music Teachers Association; and state delegate, National Convention, member, Executive Board, and plan adviser, District Convention, Education Department, National Music Teachers Association; and received an honorary membership in Phi Mu Alpha.

PAUL M. OBERG served as secretary-treasurer, Executive Committee, Minnesota Public School Music League; dean, American Federation of Musicians Congress of Strings; and member, Curricula Study, National Association of Schools of Music; and was elected a Fellow of the International Institute of Arts and Letters.

MARCELLA LEE OJA served as secretary, Twin Cities Chapter, National Association of Teachers of Singing; and second vice president, Sigma Alpha Iota.

ROY SCHUESSLER served as president, Minnesota Music Teachers Association.

BERNARD K. WEISER served as judge, Piano Contest, Minnesota Music Teachers' Association; and conducted exams, Western Board, University of Manitoba.

Department of Philosophy

HERBERT FEIGL served as president, American Philosophical Association; director, *Center Activities*; president, Minnesota State Philosophical Society; chairman, Philosophy of Science and Theory of Knowledge Section, International Congress of Philosophy; and co-editor, *Philosophical Studies*; and was appointed to Advisory Boards, Encyclopedia of Philosophy and Library of Living Philosophers.

HOMER E. MASON served as member, Editorial Council, Dialogue—Philosophy, Theology.

GROVER E. MAXWELL served as member, Advisory Panel, Social Science Division, National Science Foundation.

KARL POTTER served as general editor, Encyclopedia of Indian Philosophy; and received a grant from the American Institute of Indian Studies.

Department of Political Science

CHARLES BACKSTROM served as section chairman, Program Committee, Midwest Conference on Political Science; and received grants from the Minnesota Council for Education in Politics, the Tozer Foundation, and the Stern Family Fund.

HAROLD CHASE was appointed visiting professor to the Department of Public Law and Government at Columbia University.

WILLIAM H. FLANIGAN served as chairman, Committee of Midwest Universities, Conference on Public Opinion and Foreign Policy.

WALTER W. KLEIN served as panel member, Annual Meeting, Midwest Conference on Political Science; and panel discussant, Annual Meeting, American Political Science Association.

CHARLES H. McLAUGHLIN served as examiner, Honors Candidate Exams, Macalester College.

BENJAMIN E. LIPPINCOTT served as panel member, ROTC Panel, Department of Defense; and discussant, Political Theory Panel, American Political Science Association.

ORVILLE PETERSON served as member, Minnesota Natural Resources Council; and member, Governor's Tax Study Committee, Governor's Property Tax Administration Committee.

LLOYD M. SHORT served as member, Nominating Committee, chairman, Panel, and chairman, Nominating Committee, Council on Graduate Education for Public Administration; chairman, Nominating Committee, Midwest Conference on Political Science; co-chairman, Conference on Achieving Excellence in Public Service, Minnesota Chapter, and president, American Society for Public Administration; vice president, American Political Science Association; and vice president and director, Citizens League of Minneapolis and Hennepin County.

MULFORD Q. SIBLEY served as visiting professor, Cornell University; outside examiner for Honors Candidate, Knox College; and faculty member, Pendle Hill; and received a Distinguished Alumnus Award from Central State College in Oklahoma.

FRANCIS J. SORAUF received the Atherton Prize from the American Political Science Association; and was appointed Fulbright Lecturer at the Johns Hopkins University Center in Italy.

JOHN E. TURNER served as member, Program Committee, American Political Science Association; and chairman, Program Committee, Midwest Political Science Association; and received a grant from the Fulbright Commission.

GEORGE A. WARP served as member, Advisory Committee, Minneapolis Community Improvement Project; and delegate, Conference of Institution Cooperation for Public Service, Public Administration Service; president,

Minnesota Chapter, American Society for Public Administration; and received a Ford Foundation Grant.

Department of Psychology

ELLIOT ARONSON served as symposium chairman, American Psychological Association; consultant, Unemployment Retraining, United States Department of Labor; and co-editor, Bobbs-Merrill Psychology Reprint Series and *Handbook of Social Psychology*; and received a National Science Foundation Grant.

DANA H. BRAMEL served as program participant, Conference on Public Opinion and Foreign Policy, Johnson Foundation.

JOHN G. DARLEY served as member, New Building Committee, American Psychological Association; member, Advisory Committee, Information Exchange Project, American Psychological Association and National Science Foundation; consultant, University of Oklahoma; and consultant, Systems Development Corporation.

MARVIN D. DUNNETTE served as president, American Psychological Association Division of Industrial Psychology; visiting associate professor, University of California at Berkeley; and received a Ford Foundation Faculty Fellowship; and a grant from the National Institute for Mental Health.

NORMAN GARMEZY served as chairman, Education and Training Board, American Psychological Association; member, Review Committee, Special Grants, National Institute of Mental Health; member, Editorial Board, *Psychological Monographs*; member, Editorial Board, *Journal of Nervous and Mental Disease*; member, Special Committee, American Psychological Association; and director, Center for Personality Research; and received a National Institute of Mental Health Research Career Award.

MARSHALL GREENBERG served as outside examiner, Senior Orals, Carleton College; and chairman, Division 5, American Psychological Association.

JAMES J. JENKINS served as member, Board of Directors, Minnesota Human Genetics League; member, Behavioral Sciences Study Section, National Institute for Mental Health; and psychology editor, Prentice-Hall, Incorporated; and received grants from the National Science Foundation and the United States Public Health Service.

DAVID L. LABERGE received a National Science Foundation grant.

GARDNER LINDZEY served as co-editor, Century Psychology Series; associate editor, International Encyclopedia of the Social Sciences; and member, Board of Directors, American Psychological Association; and was appointed to chairmanship, Psychology Department, University of Texas.

KENNETH MACCORQUODALE served as editor, Century Psychology Series; professor, University of California; consultant editor, *Journal of Experimental Psychology*, American Psychological Association; member, State Board of Examiners in Psychology, State of Minnesota; member, Scientific Panels, National Institute of Mental Health; and consultant, Neuropsychiatry Advisory Group, Navy Surgeon-General.

PAUL E. MEEHL served as president, American Psychological Association; and director, Pastoral Training in Mental Health, Wheat Ridge Foundation.

WARREN W. ROBERTS was elected a Fellow of the American Association for the Advancement of Science; and received grants from the National Science Foundation and the National Institute for Mental Health.

WALLACE A. RUSSELL served as consultant, Site Visiting Committee, National Institute for Mental Health; consultant, Research Committee, Veterans Administration; outside examiner, Carleton College; evaluator of applications, Foreign Student Research Grant Committee, American Psychological Association; and principal investigator on a grant, National Institute of Mental Health.

MILTON A. TRAPOLD received a research grant from the National Institute of Mental Health.

ROBERT G. WARNKEN served as director, Counselors Seminar in Pakistan, Asia Foundation; member, American Rehabilitation Counselors Association Program Committee, and member, Symposium on Foreign Students, National Convention, American Personnel and Guidance Association; and research associate, Cross-Cultural Communication, Historical Evaluation Research Organization.

ROBERT D. WIRT served as member, Mental Health Review Committee, member, Executive Committee, Mental Health Planning Council, Minnesota Department of Public Welfare; research consultant, Minnesota Department of Correction; consultant, Veterans' Administration; member, Youth Development Project, Hennepin County Community Health and Welfare Council; secretary, Training Child Psychologists, and member, Directory Committee, American Psychological Association; and consultant, Minneapolis Public Schools; and received a grant from the National Institute of Mental Health.

Department of Romance Languages

RODOLFO O. FLORIFE served as president, Minnesota Chapter, American Association of Teachers of Spanish and Portuguese.

RICARDO NARVAEZ served as linguistic consultant, TV Spanish Series, KTCA-TV; and received a Fulbright Lectureship from Department of State.

ARMAND A. RENAUD served as president, L'Alliance Francaise; representative, Department of Romance Languages, Annual Meeting, Modern Language Association of America; University of Minnesota representative, Ninth International Congress of International Federation of Modern Languages and Literatures, American Council of Learned Societies and Modern Humanities Research Association, and Modern Language Association; and coordinator, Foreign Language Conference, State Department of Education.

A. SERRANO-PLAJA served as visiting lecturer, University of Wisconsin.

HARRY F. WILLIAMS served as member, Mediaeval Section, Modern Language Association; and member, American Advisory Council, International Arthurian Society.

Department of Slavic and Oriental Languages

EDWARD M. COPELAND served as secretary, Section on the Chinese Novel, Modern Language Association; and session member, Annual Meeting, Association of Asian Studies.

ADELE K. DONCHENKO served as member, Conference, Modern Language Association; member, Conference, Central States Modern Language Teachers Association; member, Conference, American Association of Teachers of Slavic and East European Languages; and chairman, Russian Language, Linguistics Conference for High School Students, Center for Continuation Studies.

RICHARD MATHER received Asian Study Grant, American Council of Learned Societies; and was appointed Research Professor of Medieval Chinese Thought, United States Education Committee, Japan; and lecturer in Chinese Civilization, Taiwan.

WILLIAM R. SCHMALSTIEG served as chairman, Slavic Linguistics, Modern Language Association; president, Minnesota Branch, American Association of Teachers of Slavic and East European Languages; and associate editor, *General Linguistics*.

PAUL W. STANESLOW served as secretary, Conferences on Teaching of Hindi, Universities of Chicago and Wisconsin; and received a NDFL fellowship.

School of Social Work

JAMES H. BRIDGES served as chairman, Committee on Education and Practice, National Association of Social Workers.

MIRIAM R. COHN served as workshop chairman, Practice Commission in Social Work, and commission member, National Commission on Group Work Practice, National Association of Social Workers; and chairman, Planning Committee, Minnesota Conference of Social Work Education.

BEULAH E. COMPTON served as member, Advisory Panel, Department of Health, Education, and Welfare; and chairman, Selection Committee, Case Competition, and member, Advisory Committee, Corrections Council on Social Work Education.

EDWARD W. FRANCELO served as chairman, Research Task Force, Council on Social Work Education; chairman, Committee, Governor's Conference on Children and Youth; and committee moderator, International Program Committee, National Conference on Social Welfare.

PHILIP C. HOVDA served as member, Nominating Committee, National Association of Social Workers; and panel expert, Child Welfare Research, Minnesota Department of Public Welfare.

DAGNY JOHNSON served as section chairman, Regional Meeting, Region 8, American Association on Mental Deficiency; resource person, Family Circle Discussion Meeting, Minneapolis Association for Retarded Children; and section chairman, Regional Meeting, Child Welfare League of America.

ROBIN HUWS JONES, Principal of the National Institute for Social Work Training, London, England, was a visiting professor of social work during the winter quarter, 1964.

JOHN C. KIDNEIGH served as chairman, Relationship Committee, and chairman, Federal Relations Committee, National Association of Social Workers; member, Doctoral Committee, chairman, Faculty Conference Day, and chairman, Accrediting Team, Council on Social Work Education; and consultant, United States Veterans Administration.

GISELA L. KONOPKA served as president and member, Annual Meeting, American Orthopsychiatric Association; member, Committee on Standards for Social Work, National Association for the Blind Standards Project; expert and consultant, Minnesota Correctional Services, Department of Correction; consultant, Big Sister Organization; consultant, Oak Park Home; consultant, Group Home for Girls, board member, Minneapolis Youth Project, and member, Executive Committee, Family and Children's Committee, Hennepin County Welfare Council; resource person, Bi-Annual Meeting, member, Correction, Governor's Committee on Children and Youth, State of Minnesota; session chairman, Annual Meeting, Committee on Social Work Education; main investigator, Continuance of Research on Adolescent Girls in Conflict, National Institute of Mental Health—Grant; consultant, Minnesota Children Treatment, Department of Welfare; and lecture session chairman, Annual Institute Meeting, Oregon Public Welfare Department, National Association of Social Workers.

LAWRENCE F. MERL served as chairman, Steering Committee, Council Social Work in Schools, member, Board of Directors, member, Cabinet, Division of Practice and Knowledge, member, Executive Committee, School of Social Work Section, and member, Recruitment, Southern Minnesota Chapter, National Association of Social Workers.

ANNE S. W. OREN served as consultant, National Admissions Study, Council on Social Work Education.

RUBY B. PERNELL served as Social Welfare Attaché, American Embassy in India; interviewer, Admissions Interview, Council on Social Work Education; consultant, Natural Sciences Study Committee, Hennepin County Health and Welfare Council; president, Minnesota Chapter, and member, Board of

Directors, National Association of Social Workers; and delegate, International Congress of Schools of Social Work.

IDA G. RAPOFORT served as member, Planning Committee, Legislative Committee, Jewish Vocational Service; panelist, Recruitment Conference, Student Association of Social Workers; and participant member, Task Force on Competence in Social Work, National Association of Social Workers.

HENRIETTE E. SALOSHIN served as member, Governor's Council for Children, and member, Governor's Council on Aging, State of Minnesota; member, Personnel Committee, Jewish Committee Center; and workshop coordinator, Health and Disability Concepts in Social Work Education, Vocational Rehabilitation Association.

A. K. S. YADAVA served as research analyst, United Community Service, Milwaukee.

HELEN C. J. YESNER served as member, Health Committee, Minnesota Welfare Association; and member, Evaluation Committee for Great Lakes Institute, National Association of Social Workers.

Department of Sociology

ROY G. FRANCIS served as associate editor, *Journal of Sociological Problems*, Society for Study of Sociological Problems; associate editor, *Sociology Quarterly*, chairman, Section of Midwest Sociology Convention, and representative of Minnesota, Executive Council, Midwest Sociology Society; and consultant, President's Committee on Delinquency and Youth Crime, Department of Justice.

WALTER M. GERSON received a research grant from the Joint Committee for Research on Television and Children.

EDWARD GROSS served as section chairman, Annual Meetings, American Sociological Association.

REUBEN A. HILL, JR. served as visiting professor, University of Southern California; visiting professor, University of Louvain, Belgium; chairman, World Congress Society, International Sociological Association; member, Committee on Certification of Social Psychologists, American Sociological Association; member, Screening Committee, Fulbright and Smith-Mundt Awards in Sociology, International Exchange of Persons, Board of Associated Councils; member, Committee for the Selection of Exchange Professors; member, Board of Associated Research Councils; member, Board of Directors, Family Service Association of America; member, Committee on International Exchange of Persons; and member, Board of Directors, National Council on Family Relations; and received the Ernest W. Burgess Award from the National Council on Family Relations and a grant from the National Institute of Life Insurance.

ARTHUR L. JOHNSON served as vice president, Minnesota Council on Family Life; and secretary, and member, Board of Directors, Lutheran Studies, Incorporated.

DON A. MARTINDALE received the Merit Award from Delta Tau Kappa.

ELIO D. MONACHESI served as council member, American Sociological Association; member, Board of Directors, Big Brothers, Incorporated; research consultant, Hennepin County Youth Development Planning Project; research consultant, School Work Delinquent Project, Rehabilitation Institute, Wisconsin; consultant, Traineeship Program, Ramsey County Problem Department; and co-chairman, Local Arrangements Committee, and board member, Midwest Sociological Society; and received a Visiting Scientist Award from the American Sociological Association Program, National Science Foundation.

JOHN D. PHOTIADIS served as state representative, member, Committee on Farm Practice, and member, Population Committee, Farm Foundation; state representative, Rural Sociological Society; and member, Committee on Farm Practices, World Congress on Rural Sociology.

ARNOLD M. ROSE served as representative to Minnesota Legislature; vice president, American Sociological Association; and chairman, International Research Seminar, International Gerontological Association.

GREGORY P. STONE served as consultant, Japanese-American Research Project, University of California at Los Angeles; and consultant, Developmental Course Curriculum, United States Corps of Engineers; and received a research grant from the Joint Committee for Research on Television and Children.

Department of Speech and Theatre Arts

LEE ADEY served as critic judge, State One Act Play Festivals, Minnesota; and director, *The Crucible*, St. Louis Park Community Theatre.

ARTHUR H. BALET served as executive secretary, Office for Advanced Drama Research, Rockefeller Foundation.

ERNEST G. BORMANN served as consultant, Business and Industry Institute.

VIRGINIA FREDRICKS served as critic judge, Minnesota State High School League.

KENNETH L. GRAHAM served as president and program chairman, 27th Annual Convention, American Educational Theatre Association.

ERNEST HENRIKSON served as consulting editor, *Journal of Speech and Hearing Disorders*; secretary, American Speech and Hearing Foundation; and consultant, American Cancer Society.

WILLIAM S. HOWELL served as member, Legislature, member, Assembly, member, Executive Committee, and vice president, Inter-Group Discussion, Speech Association of America; consulting speech adviser, Minnesota High School League; and consultant, Communication, Industry in the Twin City Area.

GEORGE L. SHAPIRO served as program chairman, Convention, National Speech Study Committee; faculty member, Training Program, State Crime Bureau; faculty member, Training Program, Minneapolis Police Department; and management consultant, International Business Machines, United States Departments of Agriculture and Defense; and was nominated Outstanding Speech Teacher of the Year by the Central State Speech Association.

DAVID W. THOMPSON served as chairman, two symposia, Central State Speech Association; and critic and judge, Speech Festivals, Minnesota State High School League.

FRANK M. WHITING served as member, Board of Directors, Minnesota Theatre Company, Tyrone Guthrie Theatre; and panel chairman, and general session chairman, Convention, American Educational Theatre Association.

Department of Statistics

THEOPHILOS N. CACOULLOS served as member, Economic Planning Committee, and director, National Statistics Office, Conference of European Statistics, Government of Cyprus.

Department of Zoology

SAMUEL EDDY received the Annual Award for Research and Conservation Activity, Minnesota Sportsman Show; and Annual Award for Teaching and Research in Wildlife, Minnesota Chapter, Wildlife Society.

EUGENE A. LEFEBVRE served as management chairman, Minnesota Chapter, Nature Conservancy.

DAVID F. MCKINNEY served as program organizer, speaker, and reporter, Sixth Seminar on Breeding Biological Waterfowl, Delta Waterfowl Research Station.

SHELDON C. REED served as chairman, Human Genetics, State Board of Health.

NELSON T. SPRATT served as member, Research Career Award Committee, National Institutes of Health.

JOHN R. TESTER served as member, Environmental Study Committee, and member, Radioecology Committee, Ecological Society of America; president, Minnesota Chapter, and member, Telemetry Committee, Wildlife Society; and member, Biotelemetry Advisory Committee, American Institute of Biological Science.

FRANKLIN WALLACE received a fellowship from the Interamerican Program, Louisiana State University.

DWAIN W. WARNER served as member, American Institute of Biological Sciences Advisory Committee on Biotelemetry, American Institute of Biological Science, Foundation for Instrumentation Education and Research, and Office of Naval Research.

University Libraries

PAUL D. BERRISFORD served as member, Visiting Committee, Regina High School, Minnesota Senate Committee on Institutional Relationships; and chairman, Membership for Minnesota, Catalog Section, American Library Association.

CAROLINE BREDE served as member, Committee on Memorials, and member, Committee on Statistics and Directors, American Association of Law Libraries.

MARIE J. ELLER served as first vice president, Local Group, Toastmasters International; member, Foreign Policy Committee, League of Women Voters, Minneapolis; and member, Membership Committee, Minnesota Library Association.

LOIS R. FERM served as secretary, College Section, St. Cloud, and member, Nominating Committee, Minnesota Library Association; and secretary, Conference, Teacher Education Preparation, National Education Association.

FRANK J. GILLIS served as book review editor, Society for Ethnomusicology; and editor, *Jazz, Inc.*, Minnesota Jazz Society.

RALPH H. HOPP served as vice president, St. Anthony Park Association; and received a Fulbright Grant, University of Ankara, Turkey, from the State Department.

KATHARINE M. HOLUM served as province vice president, Sigma Alpha Iota; and member, Editorial Board, editor, Bulletin series, and contributing editor, *Response*, Lutheran Society for Worship, Music and the Arts.

NORMA L. HOVDEN served as member, Membership Committee, American Library Association.

JOHN PARKER served as secretary, Society for the History of Discoveries.

EDWARD B. STANFORD served as member, Board of Directors, Midwest Inter-library Center.

CAROL L. URNESS served as secretary, Delta Phi Lambda; and committee member, Minnesota Library Association.

JOHN A. WOLTER served as member, Executive Council, Theta Delta Chi.

College of Medical Sciences

Administration

GRAHAM BEAUMONT was made a Fellow, Royal College of Physicians of Canada.

RAYMOND N. BIETER received the Meritorious Service and Man of the Year Award from the Aesculapian Club, College of St. Thomas, St. Paul.

N L GAULT, JR. served as consultant, Medical Education in Korea, China Medical Body of New York, Incorporated; member, Medical and Scientific Committee, Minnesota Arthritis and Rheumatism Association; consultant, Agency for International Development; program consultant, The National Foundation; member, Board of Directors, Minnesota Arthritis and Rheumatism Foundation; and secretary-treasurer, Minnesota Medical Foundation.

RICHARD M. MAGRAW served as member, Program Committee, American Academy of Psychosomatic Medicine; and chairman, Committee, Minnesota Psychiatric Association.

ROBERT B. HOWARD served as member, Advisory Committee, Committee on Research Facilities and Resources, National Institutes of Health; chairman, Committee, Association of American Medical Colleges; and member, Board of Trustees, Minnesota Medical Foundation.

Department of Anatomy

J. FRANCIS HARTMANN served as member, Anatomy Committee, National Board of Medical Examiners.

CARL B. HEGGESTAD received a Distinguished Teacher Award from the Minnesota Medical Foundation.

ARNOLD LAZAROW served as president, Minnesota Medical Foundation; vice president, Histochemical Society; adviser, Executive Committee, American Association of Anatomists; adviser, Board of Trustees, Marine Biological Laboratory; member, Board of Directors, Twin Cities Diabetes Association; and visiting lecturer, University of Dundee.

CARL R. MORGAN received a Research Fellowship from the American Diabetes Association.

LEMEN J. WELLS served as member, Nominating Committee, American Association of Anatomists.

Department of Anesthesiology

JOSEPH J. BUCKLEY served as director, and member, Committee on Scientific Exhibits, American Society of Anesthesiologists.

JOHN R. GORDON served as examiner, American Board of Anesthesiology.

F. H. VAN BERGEN served as chairman, Health Hazards, and chairman, Respirator Care Units, American Society of Anesthesiologists; and chairman, Program Committee, Academy of Anesthesiology; and received an Honorary Membership in the New England Society of Anesthesiologists.

Department of Biochemistry

WALLACE ARMSTRONG served as member, Training Grant Committee, United States Public Health Service; and mentor, Advanced Education for Dental Research, American College of Dentists.

CYRUS P. BARNUM, JR. served as member, Review Committee on Argonne, University of Chicago.

MARY E. DEMPSEY received a Postdoctoral Research Fellowship and a Research Grant from the American Heart Association; and Research Grant Awards from Minnesota Heart Association and National Heart Institute, United States Public Health Service.

GEORGE SCHROEFFER received three Research Career Development Awards from the United States Public Health Service.

FRANK UNGAR served as member, Editorial Board, *Steroids*.

RICHARD W. VONKORFF served as secretary-treasurer, Society of Experimental Biology and Medicine; member, Committee of Biological Chemistry, and chairman, Subcommittee on Enzymes, National Academy of Sciences

and National Research Council; and chairman, Summer Scholarship Program, Minnesota Heart Association.

DONALD B. WETLAUFER served as visiting professor, Concordia College at Moorhead, under an appointment sponsored by the Minnesota Academy of Sciences and the National Science Foundation.

Department of Continuation Medical Education

W. ALBERT SULLIVAN served as chairman, Continuation Medical Education Committee, Association of American Medical Colleges; and received the Distinguished Teaching Award from the Minnesota Medical Foundation.

University Hospitals

RAY M. AMBERG received Distinguished Service Awards from the Kiwanis Club and the Minnesota Medical Foundation.

ANNIE L. BAKER served as member, Professional Advisory Committee, Minnesota Mental Health Association; member, Governor's Commission for the Aged, and member, Governor's Conference on Youth, State of Minnesota; institute chairman, National Association of Social Work; and board member, Minnesota Welfare Association.

FLORENCE J. JULIAN served as nursing consultant, Veterans Administration Hospital of Minneapolis; and member, Planning Committee, Nursing Workshop, Texas League for Nursing.

Department of Laboratory Medicine

ELLIS S. BENSON served as member, Pathology "A," Study Section, National Institutes of Health and United States Public Health Service; and received a Career Development Award from the United States Public Health Service.

GERALD T. EVANS served as member, Project Study Section, Clinical Chemistry, United States Public Health Service.

ESTHER F. FREIER served as chairman, Awards Committee, and associate editor, *American Journal of Medical Technology*, American Society of Medical Technology.

JEAN JORGENSEN LINNE served as vice president, Alpha Delta Theta Alumni; and chairman, Committee, Twin City Society of Medical Technologists.

VERNA L. RAUSCH served as president and board member, Minnesota Society of Medical Technologists; and chairman, Examination Committee, Board of Certified Laboratory Assistants, American Society of Clinical Pathology.

Department of Medicine

JAMES B. CAREY, JR. served as delegate, Minnesota State Medical Association; secretary, Minneapolis Society of Internal Medicine; and secretary-treasurer, Minnesota Academy of Medicine; and received a Blain Brower Traveling Scholarship from the American College of Physicians.

FREDERICK C. GOETZ served as member, Editorial Board, *Diabetes*; director, American Diabetes Association; and secretary-treasurer, Central Clinic and Research Club.

BYRL J. KENNEDY served as member, Senior Clinical Traineeships Committee, Cancer Control Program, Bureau of States Service, United States Public Health Service.

WALTER J. RUNGE received a Certificate of Merit from the American Medical Association.

SAMUEL SCHWARTZ received a Career Award from the United States Public Health Service.

WESLEY W. SPINK served as member, Board of Directors, Minnesota Medical Foundation; member, Board of Regents, American College of Physicians; national consultant, Internal Medicine, United States Air Force; member, Allergy Study Section, National Institutes of Health; chairman, Brucellosis Panel, World Health Organization; member, Committee on Shock, National Research Council; member, Medical Advisory Board, Food and Drug Administration; and member, Subcommittee on Principles of Institutional and Investigator Competence, Committee on Drug Safety; and received an Honorary Fellowship from Royal Australasian College of Physicians; the CHAPIN award and medal from Rhode Island Medical Society; and First Samuel Grant Visiting Professorship of Medicine from Washington University, St. Louis.

YANG WANG served as member, Executive Committee, program co-chairman, Twin City Cardiac Seminar, and chairman, Scientific Session, Annual Meeting, Minnesota Heart Association.

RALPH C. WILLIAMS, JR. served as member, Executive Committee, Minnesota Arthritis and Rheumatism Association; and guest investigator, Rockefeller Institute, New York.

Department of Microbiology

ROBERT W. BERNLOHR received a Career Research Development Award, United States Public Health Service.

S. GAYLEN BRADLEY served as member, Actinomycetes Committee, and member, Editorial Board, American Society of Microbiologists; and member, Governing Board, American Institute of Biological Sciences.

BROOKS D. CHURCH served as session chairman, Atmosphere Biology, National Aeronautics and Space Administration; and chairman, Education Committee, National Science Foundation and American Society of Microbiologists.

MARTIN DWORKIN served as chairman, Life Cycles Meeting, and member, Taxonomy of Myxobacteria Committee, American Society of Microbiologists; and received a National Institutes of Health Career Development Award.

RONALD W. HINZ served as consultant, Rocky Mountain Laboratory, Montana, United States Public Health Service.

LEROY C. McLAREN served as chairman, Virus Reproduction, American Society of Microbiologists; and received a United States Public Health Service Research Career Award.

LOUIS H. MUSCHEL served as consultant, Walter Reed Army Institute of Research.

PALMER ROGERS, JR. served as session chairman, 63rd Annual Meeting, American Society of Microbiologists.

EDWIN L. SCHMIDT served as division vice president, Soil Science Society of America; and received a John Simon Guggenheim Fellowship.

RICHARD E. SHOPE, JR. received a United States Public Health Service Career Development Award.

JOHN SPIZIZEN served as associate editor, *Journal of Bacteriology*; and member, Biochemistry Study Section, National Institutes of Health.

DENNIS W. WATSON served as member, Allergy and Infectious Disease Training Group Committee, National Institutes of Health; and session chairman, Annual Meeting, American Society of Microbiologists.

School of Nursing

MARY ANN BAAS served as member, Evaluation and Guidance Committee, Minnesota League for Nursing.

MARILYNE BACKLUND served as member, Legislative Committee, Minnesota Nurses Association.

FLORENCE BRENNAN served as consultant, St. Barnabas Nursing School; and consultant, Methodist-Kahler School of Nursing.

PEGGY J. BROWN served as member, Professional Nursing Practice Committee, and member, Committee on Careers in Nursing, Minnesota Nursing Association.

NANCY L. COOK served as corresponding secretary, and chairman and panel member, Evaluation and Guidance Committee, Minnesota League for Nursing; and panel member, Pediatric Conference, State Board of Health.

AGNES B. DEMPSTER served as program chairman, Inter-Divisional Council on Maternal-Child Health, Minnesota League for Nursing, and panel member and group leader, Maternal and Child Health Council; and was elected to Sigma Theta Tau.

FRANCES E. DUNNING served as national treasurer, Sigma Theta Tau; member, Advisory Committee, Swedish Hospital School of Nursing; and consultant to Presentation School of Nursing, Aberdeen, South Dakota.

GRACE M. FREJLACH served as member, Nominating Committee, Minnesota Nurses Association.

EDNA L. FRITZ served as chairman, Undergraduate Education Committee, and member, Accrediting Team, National League for Nursing; secretary, Executive and Finance Committees, Board of Directors, American Journal of Nursing Company; member, Board of Directors, Minnesota League for Nursing; member, Mary M. Roberts Writing Awards Committee.

EDNA H. GILSTAD was elected to Sigma Theta Tau.

MARGARET F. GRAINGER served as member, Functions Committee, member, TV Committee, and member, Professional Nurses Practice Committee, Minnesota Nurses Association; and member, Finance Committee, Minnesota League for Nursing.

CLARINE O. GREFE served as member, Evaluation and Guidance Committee, Minnesota League for Nursing; and member, Practical Nursing Education Workshop Planning Committee, Minnesota Vocational Schools.

HELEN B. HANSEN served as member, Legislative Committee, 3rd District, member, Executive Committee, 3rd District, first vice president, 3rd District, chairman, Educational Television Committee, and member, Convention Program Planning Committee, Minnesota Nurses Association; and consultant, Arkansas League for Nursing.

M. ISABEL HARRIS served as member, Advisory Committee, Professional Nurse Traineeship Program, Washington, D.C.; chairman, Technical Committee, American Nurses Foundation; member, Technical Advisory Committee, American Nurses Foundation; member, Technical Advisory Committee, St. Luke's Hospital Research Project; and chairman, EACT Section, Third District, Minnesota Nurses Association.

RUTH O. LEO was elected to Sigma Theta Tau.

GARLAND K. LEWIS served as member, Editorial Board, *Perspectives in Psychiatric Care*; member, Advisory Committee on Nursing Service, Veterans Administration; representative to World Federation for Mental Health, Amsterdam, Holland; consultant, Minneapolis Combined Public Health Nursing Service; special consultant, Mental Health Survey Team, United States Public Health Service; and member, Steering Committee, Council on Mental Health—Psychiatric Nursing, National League for Nursing; and was elected to Sigma Theta Tau.

PATRICIA A. MADDEN was elected to Sigma Theta Tau.

HELEN J. PETERSON served as program chairman, Third District, Minnesota Nurses Association.

EUGENIA R. TAYLOR served as chairman, Minnesota Advisory Committee on Practical Nurse Education, Vocational Education Division, Minnesota Department of Education; consultant, Nursing Education and Service Workshop, State University of Iowa; and consultant, North Dakota Practical Nurse Education Conference.

DOROTHY E. TITT served as member, Careers Committee, Minnesota Nurses Association; member, Minnesota Board of Nursing, State of Minnesota; and resource person on curriculum, Department of Nursing, College of St. Catharine.

ELIZABETH WHITNEY served as chairman, Committee, Minnesota Nurses Association.

Department of Obstetrics and Gynecology

WILLIAM D. COHEN served as member, Advisory Committee, Clinical Chemical Evaluation Survey, Minnesota Department of Health.

KONALD A. PREM served as member, Board of Editors, *Minnesota Medicine*, Minnesota Medical Association.

Department of Otolaryngology

LAWRENCE R. BOIES served as member, Committee on Conservation of Hearing, and president, American Academy of Ophthalmology and Otolaryngology; president, American Board of Otolaryngologists; member, Council, and trustee, Central Bureau of Research, and president, American Otolaryngology Society; member, Communicative Sciences Study Section, National Institutes of Health; and member, Neurological and Sensory Disease Service Advisory Committee, United States Public Health Service.

WALLACE D. WARD served as member, Committee on Hearing and Bioacoustics, National Research Council; and member, Abstraction of Literature Committee, *Journal of Occupational Medicine*.

Department of Pathology

FRANZ HALBERG served as vice president, International Society for the Study of Biological Rhythms; member, Research Committee, and session chairman, Section on Medicine, Annual Meeting, American Association on Mental Deficiency; editor, *Fortschritte der Medizin*; member, Panel on Circadian Rhythms, and member, Weightless Work Group, National Academy of Sciences; consultant, Ames Research Center, National Aeronautics and Space Administration; consultant, Research, Cambridge State Hospital; chairman, International Committee on Nomenclature, Biological Rhythms Society; session chairman, Photo-Neuro-Endocrine Effects in Circadian Systems, New York Academy of Sciences; and instructor, Medical Aspects of Stress in Military Climate, Walter Reed Army Institute for Research.

HERBERT M. HIRSCH served as member, Editorial Board, *Cancer Research*, American Association for Cancer Research.

Department of Pediatrics

PAUL ADAMS received an award from the American Board of Pediatric Cardiology, American Board of Pediatrics.

JOHN A. ANDERSON served as chairman, Collaborative Study, United States Public Health Service and National Institute of Neurological Diseases and Blindness, National Association of Mental Deficiency.

RAY C. ANDERSON served as member, Genetics Committee, State of Minnesota; member, Congenital Malformation Committee, American Academy of Pediatricians; and member, School Heart Committee, Minnesota Heart Association.

KEITH N. DRUMMOND received a Fellowship from the Royal College of Physicians and Surgeons in Canada; and a Mead Johnson Pediatric Research Fellowship.

PAUL G. QUIE served as guest investigator, Rockefeller Institute; and received a Research Career Development Award from the National Institutes of Health.

RICHARD B. RAILE served as secretary, Minneapolis General Hospital Research Foundation; and chairman, Home Care Study Committee, Hennepin County Health and Welfare Council; and received a Minnesota Medicine Award for excellence in medical writing.

JOHN W. REYNOLDS served as nutrition consultant, Interdepartmental Committee, National Institutes of Health and Defense Department.

ROBERT A. ULSTROM served as member, National Research Council, National Academy of Sciences; member, Editorial Board, *Journal of Pediatrics*; member, Executive Council, and council member, Annual Meeting, Midwest Society of Pediatric Research; and member, Research Council, Society of Pediatric Research; and received the Wyeth Award in Medicine.

HOMER D. VENTERS, JR. served as member, Medical Advisory Committee, Ramsey County Chapter, National Foundation; and member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation.

LEWIS W. WANNAMAKER served as councilor, Central Society for Clinical Research; president, Midwest Society for Pediatric Research; member, Board of Editors, Society for Experimental Biology and Medicine; member, Editorial Board, *Journal of Bacteriology*; consultant to Surgeon General, United States Army; member, Allergy and Immunology Study Section, National Institutes of Health and United States Public Health Service; member, Executive Committee, Council on Rheumatic Fever and Congenital Heart Disease, member, Committee on Prevention of Rheumatic Fever and Bacterial Endocarditis, and member, Committee on Epidemiological Studies, Council on Community Service and Education, American Heart Association; member, Commission on Streptococcal and Staphylococcal Diseases, Armed Forces; and member, Research Allocations Committee, and member, Board of Directors, Rheumatic Fever Committee, Minnesota Heart Association.

WARREN J. WARWICK served as member, Medical Care Committee, Cystic Fibrosis Research Foundation; and member, Medical Advisory Committee, Minnesota Chapter, National Cystic Fibrosis Research.

Department of Pharmacology

FREDERICK SHIDEMAN served as chairman, Study Section, member, Planning, Toxicity Conference, and chairman, Post Conference Toxicity Meeting, National Institutes of Health; vice chairman, Advisory Committee, American Cancer Society; member, Research Study Committee, American Heart Association; member, Ad Hoc Committee, Long Term Chronological Study, Commission on Drug Safety; and president, American Society of Pharmacology and Experimental Therapeutics.

Department of Physical Medicine and Rehabilitation

JOHN D. ALLISON served as director and chairman, American Physical Therapeutics Association.

ROCHELLE J. GAVALAS received a postdoctoral grant from the United States Public Health Service.

MARIAN L. ELIASON served as member, Oral Examination Panel, Minnesota Department of Public Welfare.

DANIEL HALPERN served as member, Advisory Committee, Nursing Home Project, Minneapolis Department of Health.

FREDERIC J. KOTKE served as president, American Board of Physical Medicine and Rehabilitation; member, Medical Advisory Committee, Office of Vocational Rehabilitation; member, Experimental Medical Committee, American Rehabilitation Foundation; member, Editorial Board, Congress on Physical Medicine and Rehabilitation; member, Editorial Board, *Modern Medicine*; member, Program Committee, Stroke Conference, and chairman, Panel, National Stroke Conference, American Medical Association, American Heart Association, and United States Public Health Service; member, Medical Advisory Committee, Unit of Cerebral Palsy; member, Medical and Scientific Committee, Arthritis Foundation; and member, Planning Committee, 4th Conference on Teaching Rehabilitation Medicine, Vocational Rehabilitation Administration.

WILLIAM G. KUBICEK served as visiting lecturer, Department of Physical Medicine and Rehabilitation, University of Washington.

MARVIN G. LEPLEY served as representative, Midyear Meeting of School Directors, Occupational Therapy Association; and faculty representative, Course in Prosthetics and Orthotics for Faculty Members of Schools of Physical and Occupational Therapy, University of California, Vocational Rehabilitation Administration.

ROMINE E. MATTHEWS served as organizer, Minnesota Rehabilitation Council Association.

JAMES F. POHTILLA served as treasurer, Minnesota Chapter, American Physical Therapy Association.

ALLAN C. YATER served as discussion leader, Region VI, Convention, and panel leader, Conference, Minnesota Rehabilitation Association.

Department of Physiology

EUGENE D. GRIM served as member, Steering Committee, Gastrointestinal Committee, and editorial consultant, *American Journal of Physiology* and *Journal of Applied Physiology*, American Physiological Society.

JOHN A. JOHNSON received a John Simon Guggenheim Award.

CARLOS MARTINEZ served as visiting professor, Universitaria Nacional de Cordoba; visiting professor, Instituto de Biología y Medicina Experimental, Buenos Aires, Argentina; and member, Editorial Board, Transplantation.

LAURENCE PILGERAM served as member, Local Planning Committee, National Gerontological Society.

CARLO A. TERZUOLO served as chairman, Neurophysiological Group Meeting, American Physiological Society.

MAURICE B. VISSCHER served as editorial consultant, *Modern Medicine*; member, Board of Directors, Annual Reviews, Incorporated; chairman, Editorial Board, American Physiological Society; member, Advisory Committee on Radiation Safety, State Board of Health; visiting lecturer, Cardiovascular Research Institute; visiting lecturer, University of California at Los Angeles; chairman, Committee on Bio-Medical Science Communication, and chairman, United States National Committee for the International Union of Physiological Sciences, National Academy of Sciences; and member, Visiting Committee for the Medical Department, Brookhaven National Laboratory.

Department of Psychiatry and Neurology

RICHARD W. ANDERSON served as member, Board of Directors, Minnesota Association of Mental Health.

ABE BERT BAKER served as president, American Board of Psychiatry and Neurology; member, Medical Advisory Board, Epilepsy Foundation; and chairman, National Committee on Research of Neurological Disorders.

JAMES F. BERRY served as member, Faculty, Special Course on Neurochemistry, American Academy of Neurology; and member, Editorial Committee, Short Course on Quantitative Methodology in Lipid Research, American Oil Chemists' Society.

MICHAEL E. BLAW served as member, Medical Advisory Board, Minnesota Epilepsy League; consultant, State Medical Advisory Committee, and adviser, Subcommittee on Physically Handicapped Children, Minnesota State Department of Public Welfare; and chairman, Pediatric Neurology Course, and member, Committee on Special Courses, American Academy of Neurology.

PAUL BRANSFORD served as member, Loring-Nicollet Center Project, Hennepin County Mental Health Board.

JOHN P. BRANTNER served as member, Workhouse Advisory Committee, Mayor of Minneapolis; member, Alcoholism Committee, Hennepin County Health Council; member, Professional Advisory Committee, Minnesota Association of Mental Health; and member, Professional Advisory Committee, Committee on Delinquency and Crime, Minnesota Correctional Society.

MILTON G. ETTINGER was appointed Chief of Neurology of Minneapolis General Hospital.

GEORGE C. FLORA served as vice chairman, Convention Committee, and chairman, Placement Committee, American Academy of Neurology.

IAN W. GREGORY served as consultant, Mental Health Study Section "A," Division of Research Grants, National Institutes of Health; and received a fellowship from the American Public Health Association.

ADOLF J. HAFNER served as assessment consultant, Peace Corps; and consultant, National Center for Health Statistics, Department of Health, Education, and Welfare.

STARKE R. HATHAWAY served as consultant, Mental Health Study Section, National Institute of Mental Health; consultant, Minneapolis Youth Development Project, Community Health and Welfare; chairman, Board of Professional Affairs, and president, Division 12, American Psychological Association; and visiting professor, University of Mexico.

GORDON T. HEISTAD served as member, Drug Investigating Meeting, and member, Psychopharmacology Advisory Committee, United States Public Health Service, Psychopharmacology Service Center; and received a fellowship from the Commonwealth Fund.

REYNOLD A. JENSEN served as member, Science Advisory Research Committee, Annual Meeting, National Retarded Children Association; member, Children's Advisory Committee, and member, Executive Council, Minnesota Mental Health Council, Department of Public Welfare; member, Advisory Research Committee, Minnesota Association of Retarded Children; member, Planning Council on Mental Retardation, Governor's Council; member, Governor's Conference on Children and Youth, State of Minnesota; member, Executive Council, American Association of University Professors; committee member, American Association of Mental Deficiencies; board member, Minnesota Human Genetics League; board member, and chairman, Hennepin County Health and Welfare Council, United Fund; board member, River Falls State College Foundation; faculty member, 4th Institution of Preventive Psychology, University of Iowa; chairman, Plenary Session, International Congress of Child Psychologists and Allied Professions; consultant, Lakeland Mental Health Center; and consultant, Mental Health Institute of Educators, Los Angeles City Schools; and received the Distinguished Alumni Award from River Falls State College, Wisconsin.

CARL D. KOUTSKY served as vice president, Minnesota Association of Mental Health; and chairman, Minnesota Mental Health Planning Committee.

DAVID T. LYKKEN served as research consultant, Veterans Administration Hospital, Fort Snelling.

MANFRED J. MEIER served as chairman, Midwest Psychological Association Symposium; and received a Research Career Development Award from National Institutes of Health.

JAMES A. MORIARTY served as consultant, Hot Springs VA Center, Veterans Administration; and consultant, Anoka State Hospital, State of Minnesota.

ERLAND R. NELSON served as member, Executive Council, American Association of Neuropathology; secretary-treasurer, Reorganization, Minnesota Society of Neurological Science; and examiner, American Board of Psychiatry and Neurology.

JEROME D. PAUKER served as news editor, Missouri Psychological Association.

JOHN H. POWERS served as member, Corresponding Committee, Division 12, American Psychological Association.

BURTRUM C. SCHIELE served as member, Clinical Drug Evaluation Committee, Psychopharmacology Service Center, National Institute of Mental Health; committee member, American College of Neuropsychopharmacology; council member, American Society of Medical Psychology; and president, Minnesota Psychiatric Society.

WILLIAM SCHOFIELD served as member, Medical Policies Advisory Committee, State of Minnesota; chairman, Committee on Evaluation, American Psychological Association; and executive secretary, Minnesota Psychological Association.

EDWARD S. SULZER served as chairman, Committee, American Association of University Professors; and consultant, Veterans Administration, United States Government.

School of Public Health

ELEANOR M. ANDERSON served as committee member, Research Project, Minneapolis Health Department; consultant, In-Service Education, Omaha Visiting Nurse Association; and vice chairman, Minnesota Section, National League for Nursing.

GAYLORD W. ANDERSON served as member, Medical Research Advisory Committee, Pan American Health Organization; member, Bioscience Panel, National Space Administration; chairman, Task Force on Environmental Health, National Commission on Community Health Services; and was awarded the Sedgwick Memorial Medal from the American Public Health Association.

JOSEPH T. ANDERSON served as member, Board of Editors, *Biological Abstracts*.

JACOB E. BEARMAN served as statistical consultant, Surgeon General's Committee on Smoking and Health; statistical consultant, Surgeon General's Advisory Committee on United States National Health Survey; statistical consultant, University Group on Diabetes, National Institute of Arthritis and Metabolic Diseases; member, Policy Board, National Heart Institute, Heart Drug Study; member, Research Committee, Minnesota Tuberculosis and Health Association; principal investigator, National Heart Institute Research Grant; and vice chairman, Statistics Section, American Public Health Association; and was elected Fellow of the American Statistical Association; and received a Rockefeller Foundation Traveling Fellowship; and a Ford Foundation Visiting Professorship to the University of Ibadan.

JEROME T. BIETER served as faculty member, First National Seminar on Hospital Administration, Manila, World Health Organization and the Department of Health, Republic of the Philippines.

HENRY W. BLACKBURN served as member, Criteria Committee, American Heart Association; member, Advisory Board, Life Insurance Medical Research; and consultant, University Group on Diabetes.

RICHARD G. BOND served as special consultant, National Institutes of Health; member, Formula Facilities Design, American Hospital Association; member, Bronfman Award Committee, member, Governing Council, chair-

man, Hospital Facilities Committee, member, Program Area C on Communicable Disease, member, Communicable Disease in General Hospital, and member, Hospital Engineering Manual Committee, American Public Health Association; member, Health and Medical Technology Committee, National Safety Council; staff consultant, Environmental Health Task Force, National Commission on Community Health Services; consultant, Office of Surgeon General, United States Army; and adviser, Cleveland Health Goals Project, Cleveland Welfare Council.

JOHN O. BUXELL served as member, Planning Committee, Training Course on Environmental Health in Urban Planning, and member, Planning Committee, National Conference on Institutionally Acquired Infections, United States Public Health Service; member, Committee on International Health, and member, Committee on Housing Appraisal, American Public Health Association; member, Planning Committee, Short Course for Water Works Operators, Minnesota Department of Health; member, Committee on Environmental Health Problems of Metropolitan Areas, Conference of Municipal Public Health Engineers; consultant, Housing Appraisal and Neighborhood Rehabilitation, City of St. Louis, Missouri; adviser, Pan-American Health Organization; and adviser, World Health Organization.

ROBERT L. EVANS served as president, Minnesota Academy of Sciences.

EDWIN S. FETCHER served as secretary-treasurer, Mount Meadow Research Corporation; member, Research Advisory Committee, United States Department of Agriculture; and chairman, Advisory Council, Colorado State University.

HARRY FOREMAN served as member, State Advisory Committee on Radiation Problems.

DELPHIE J. FREDLUND served as board member, member, Functions Committee, and chairman, Public Health Nursing Section, Minnesota Nurses Association; member, Advisory Committee, Planned Parenthood.

RUTH E. GROUT served as member, Advisory Panel, Health Education, and member, Advisory Panel, National Citizens Committee, World Health Organization; member, Board of Trustees, Northwestern Hospital; member, Advisory Program, Conference on Health Education, International Union of Health; chairman, Discussion Group, Seminar on Communication Development, School of Public Health, University of North Carolina; and member, Governor's Council, American Public Health Association.

JAMES A. HAMILTON served as consultant, World Health Organization; participant, Hospital Administration Faculty Exchange Program, W. K. Kellogg Foundation; civilian consultant, Office of the Surgeon General, Medical Service Corps; commissioner, National Commission on Community Health Services, American Public Health Association and the National Health Council; chairman, Advisory Board on Hospital Superintendent Registration Program, chairman, Foreign Membership Committee, and member, Biennial Review Committee, Association of University Programs in Hospital Administration; and was honored by the establishment of the James A. Hamilton Hospital Administrators' Award through the American College of Hospital Administrators.

E. GARTLY JACO served as consultant, California Department of Mental Hygiene; chairman, Medical Sociological Session, Midwest Sociological Society; editor-in-chief, *Journal of Health and Human Behavior*; member, Local Arrangements Committee, Gerontological Society, Incorporated; member, Publications Committee, Medical Care Section, and member, Committee on Prevention of Mental Disorders, American Public Health Association; principal investigator, "The Value of Demographic and Social Data for Hospital Use," United States Public Health Service; and principal investigator, Evaluation of Nursing and Patient Care in a Circular and Rectangular Hospital Unit, James J. and Maud Hill Foundation.

ANCEL KEYS served as expert consultant, World Health Organization, Food and Agriculture Organization of the United Nations, and United Nations

Educational, Scientific and Cultural Organization; member, Executive Committee, Diet-Heart Study, United States Government; and chairman, Research Committee, International Society of Cardiology.

THEODOR J. LITMAN served as book review editor, *Journal of Health and Human Behavior*; and member, Planning Committee, Metropolitan Hospital, Minnesota State Department of Health.

RICHARD B. MCHUGH served as special consultant, Surgeon General's Advisory Committee on Smoking and Health, National Cancer Institute; representative of Biometric Society, XVI Pan American Sanitary Conference, XIV Meeting of the Regional Committee of World Health Organization for the Americas; biostatistical adviser, Mental Health Research Unit, Hastings State Hospital; member, Research Advisory Committee, Community Health and Welfare Council, Hennepin County; member, Advisory Board, Minnesota Center for the Philosophy of Science; editorial collaborator, *Journal of the American Statistical Association*; and representative, *Demography in Public Health*, National Center for Health Statistics; and was elected member of Sigma Xi.

GEORGE S. MICHAELSEN served as consultant, Architectural and Engineering Branch, Division of Hospital and Medical Facilities, and consultant, Research Branch, Division of Radiological Health, Public Health Service; consultant, Environmental Services Branch, Division of Research and Services, National Institutes of Health and Public Health Service; consultant, G. T. Schjeldahl Company, Northfield; member, Advisory Committee on Radiological Safety, and member, Advisory Committee on Minnesota Poison Information Center, State Board of Health; president, Board of Regents, Augsburg College; member, Board of Trustees, Lutheran Deaconess Hospital; governor, Lutheran Institute for Human Ecology, Park Ridge, Illinois; principal investigator, "Microbiology of Industrial Clean Rooms"; member, Program Area Committee on Environmental Health, and member, Committee on Hospital Facilities, Engineering and Sanitation Section, American Public Health Association; and chairman, Environmental Health and Safety Section, American College Health Association.

MARION I. MURPHY served as member, Planning Committee, School Nurse Preparation, National League for Nursing; member, Task Force on Health Manpower, National Commission on Community Health Services; member, Governor's Council, American Public Health Association; and consultant, Nursing Studies Unit, University of Edinburgh, World Health Organization.

THEODORE A. OLSON served as vice president, Central Division, American Society of Professional Biologists; program chairman and secretary, Laboratory Section, member, Standard Methods Committee, and organizer, Water and Waste Conference, American Public Health Association; member, Engineering Study Section, National Institutes of Health; member, Water Infestation, American Water Works Association; delegate, Second National Conference on Public Health Training, Washington; special consultant, Task Force on Environmental Health, National Commission on Community Health Services; organizer, Problems of Inshore Oceanography Related to Environmental Health, and special consultant, Water Pollution Control Section, United States Public Health Service; special consultant, Minnesota State Department of Health; special consultant, General Mills; chairman, Aquatic Biology Committee, Environmental Science and Engineering Study Section, National Institutes of Health and United States Public Health Service; and representative, Subcommittee on Eutrophication, Committee on Institutional Cooperation; and received a Special Fellowship for Study in Europe from the United States Public Health Service; and a Research Grant to study Benthic Organisms as Indicators of Water Quality.

HAROLD J. PAULUS served as vice chairman, Advisory Committee, Air Pollution, State of Minnesota Department of Health; and consultant, Air Pollution Division, Public Health Service.

GUSTAVE L. SCHEFFLER served as chairman, Accident Report Form Evaluation Committee, American College Health Association.

LEONARD M. SCHUMAN served as member, Surgeon General's Advisory Committee on Smoking and Health; member, Study Section, Accident Prevention Research, consultant, National Cancer Institute, consultant, Communicable Disease Center, consultant, Division of Radiological Health, and coordinating epidemiologist, Tri-State Study of Congenital Malformations and Background Radiation, Division of Radiological Health, United States Public Health Service; member, Committee on Evaluation of Health Hazard of Enovid, United States Food and Drug Administration; consultant, Pediatrics, Hennepin County General Hospital; member, Accident Prevention Research Study Section, National Institutes of Health; member, Committee on Evaluation and Standards, member, Resolutions Committee, chairman, Infectious Disease Monograph Subcommittee, and member, Governing Council, American Public Health Association; member, Oral Polio Vaccine Advisory Committee, Minnesota State Health Department; consultant, Training Program in Epidemiology for Veterinarians, United States Department of Agriculture; consultant, Air Pollution Medical Program, California State Health Department; member, Planning Committee, Health Committee, Governor's Council on Children and Youth; chairman, Council on Research, American College of Preventive Medicine; chairman, Conference of Chronic Disease Training Program Directors; and chairman, National Conference on Research Methodology in Community Health and Preventive Medicine, and consulting editor, Proceedings of the National Conference on Research Methodology in Community Health and Preventive Medicine, New York Academy of Science; and received special research and training grants from National Institutes of Health, National Institute of General Medical Sciences, National Heart Institute, and United States Public Health Service.

ERNEST SIMONSON served as local chairman, Gerontology Society Meeting; and received a Certificate of Merit from American College Sports Medicine; and Honorary Membership in Brazilian Gerontological Society.

LEE D. STAUFFER served as member, Standards Review Committee, National Sanitation Foundation; chairman, Food Protection Committee, Engineering and Sanitation Section, American Public Health Association; representative, American Public Health Association, National Food Protection Advisory Committee, consultant, Division of Environmental Engineering and Food Protection, and consultant, Training Branch, Communicable Disease Center, United States Public Health Service; treasurer, Minnesota Public Health Association; trustee, Lutheran Deaconess Home and Hospital; and Deputy Health Officer, and member, Board of Health, Coon Rapids.

NORMAN V. STEERE served as alternate representative, Building Exits Code Committee, American Standards Association; member, Educational and Assembly Section Committee, Safety to Life Committee, National Fire Protection Association; member, Laboratory Safety Committee; member, Conference Planning Committee; and member, Executive Committee, and secretary, Campus Safety Association.

JAMES W. STEPHAN served as treasurer, Minnesota Hospital Association; member, Council on Research and Education, and chairman, Committee on Education, American Hospital Association; and was elected to International Hospital Federation; and elected to membership, American Association Hospital Consultants.

HENRY L. TAYLOR served as member, Research Committee, member, Research Study Committee, member, Committee on Epidemic Study, member, Executive Committee, Community Service and Education, and member, Research Policy Subcommittee, Long Range Plan, American Heart Association; technical adviser, Research Committee, International Cardiological Society, Makarsku, Yugoslavia; and member, Committee on Studies Concerning Physical Activity and Cardiovascular and Pulmonary Disease, Heart Disease Control Program, Division of Chronic Disease, United States Public Health Service.

DONALD VESLEY served as member, Committee on Microbiological Contamination of Surfaces, Laboratory Section, American Public Health Association.

VERNON E. WECKWERTH served as consultant, Children's Bureau, United States Government; member, Planning Committee, Metropolitan Hospital; coordinator, Office of Continuing Hospital Education, W. K. Kellogg Foundation; and was elected a member of Sigma Xi.

Department of Surgery

EUGENE R. BERNSTEIN received the American Heart Association Advanced Research Fellowship; and John and Mary R. Markle Scholar in Academic Medicine; and was elected a member of Sigma Xi.

SHELLEY N. CHOU received First Prize for Scientific Writing from *Minnesota Medicine*.

LYLE A. FRENCH served as consultant, Neurosurgery, United States Army Medical Corps; visiting professor, Neurological Surgery, West Reserve School of Medicine; visiting professor, Neurological Surgery, Wayne State University School of Medicine; and visiting professor, New York Upstate Medical Center.

HENRY GANS served as consultant, Committee on Thrombolytic Agents, Washington University, St. Louis, National Institutes of Health.

WARD O. GRIFFEN, JR. was made a Markle Foundation Scholar.

CLAUDE R. HITCHCOCK served as co-sponsor, International Conference on Baboons; co-sponsor, National Heterograft Conference; and chairman, National Hyperbaric Meeting, New York Academy of Sciences.

WILLIAM D. KELLY received a United States Public Health Service Research Career Development Award.

C. WALTON LILLEHEI served as governor, American College of Cardiology; member, General Medical Research Committee; member, Committee on Cardiovascular Surgery, American College of Chest Physicians; and received the Citizen of the Week Award from Time and Life Broadcast, Incorporated; Malcolm F. Rogers Memorial Award from Wisconsin Heart Association; and Cummings Humanitarian Award from the American College of Cardiology.

RICHARD LILLEHEI received the Outstanding Young Man of Minneapolis and Minnesota Awards from Minneapolis Junior Chamber of Commerce.

ARNOLD S. LEONARD served as surgery clinic director, Clinic Directors Committee, Medical School; and received an Advanced Career Fellowship from the American Cancer Society.

JIM L. STORY received a United States Public Health Service Fellowship.

OWEN WANGENSTEEN served as co-editor, *Surgery*; and consultant to Surgeon General, United States Public Health Service; and was made an Honorary Doctor of Science, Hamline University; Honorary Member of Norwegian Academy of Science; and Honorary Foreign Member of Société de Chirurgie de Lyon.

University of Minnesota, Morris

Administration

IVER BOGEN served as chairman, Stevens County Chapter, National Foundation.

RODNEY A. BRIGGS served as member, Executive Committee, and chairman, Minnesota Chapter, Soil Conservation Society of America.

Division of Education

CHARLES R. BRUNING served as Regional-Omaha Group recorder, National Commission on Teacher Education and Professional Standards.

BRUCE D. ROLLOFF served as chairman, Student Section, Minnesota Association for Health, Physical Education, and Recreation.

Division of Humanities

DAVID E. CAMPBELL served as representative, Fall Regional Meeting, Minnesota Region, American Association of University Professors.

NELSON A. CAVAZOS served as member, Advisory Committee on Modern Foreign Languages, State Board of Minnesota; and made tape recordings for Educational Materials Corporation.

RICHARD A. GRANT served as organizer and leader, Spring Meeting and Field Trip, Minnesota Ornithological Union.

RAYMOND J. LAMMERS served as regional representative, regional editor of news, *Educational Theatre Journal*, committee chairman, National Convention, and member, Regional Planning Committee, American Educational Theatre Association.

THEODORE S. LONG served as president, Morris Library Board.

PATRICK MCGINNIS served as member, Executive Committee, Advisory Committee on Teacher Education, State of Minnesota; and member, Executive Committee, and chairman, Committee on Academic Freedom and Tenure, Local American Association of University Professors.

WILLIAM D. SPRING served as chairman, Preliminary Planning, Regional Meeting, National Commission on Teacher Education.

EUGENE A. STERLING received a Dissertation Fellowship from Indiana University.

Division of Science and Mathematics

ROBINSON S. ABBOTT served as representative, Industry and Education Conference, Minnesota Academy of Sciences and National Science Foundation; and member, Radioecology Institute, Oak Ridge, National Science Foundation.

WESLEY J. BIRGE served as editor, Illinois Academy of Science Transactions; and received a Travel Grant, 2nd International Congress of Histochemistry and Cytochemistry, American Society of Histochemistry.

RICHARD W. BURKEY served as vice president, Local Chapter, American Association of University Professors.

SEN FAN received two Summer Institute Fellowships from the National Science Foundation.

MILTON D. JACOBSON served as member, National Science Foundation Experimental Psychology Institute, and National Science Research Participant in Statistics, Iowa State University.

THOMAS C. JEGLA served as member, Mammoth Cave Research Conference, National Park Service.

SANFORD S. MILLER received Academic Year Fellowships from Washington University and the University of Oklahoma; and American Mathematical Society Summer Fellowships from Brandeis University and Lehigh University.

JAMES M. OLSON served as summer research fellow, University of North Dakota Chemistry Department, National Science Foundation.

JAY Y. ROSHAL served as member, Secretariat, Space Science Board, National Academy of Sciences; conferee, Conference on Toxicity in Closed Systems, Lockheed, Navy; and member, American delegation to Poland, Committee on Space Research of the International Council of Scientific Unions.

HOWARD L. STENSRUD served as chairman, Geography, Earth Science Section, Minnesota Academy of Science.

Division of Social Sciences

YU-MIN CHOU served as member, Faculty Research Seminar on International Economic Problems, Ford Foundation; and received a Research Grant from the Social Science Research Council.

ORVAL T. DRIGGS, JR. served as chapter president, American Association of University Professors; coordinator, member, County Executive Committee, and alternate delegate, Conventions, Democratic Farmer Labor Party; and received the Professor of the Year Award from Westminster College.

MILLARD L. GIESKE served as secretary-treasurer, Local Chapter and State Conference, American Association of University Professors.

BRUCE E. DUNN received two Research Grants from the National Science Foundation; a Graduate School Grant-in-Aid from the University of Wisconsin; and a Marshall University Student Government Research Grant.

JOHN Q. IMHOLTE served as member, Board of Directors, Minnesota and Dakotas Chapter, American Studies Association; and received an Award of Recognition from Minnesota National Guard.

DONALD O. JOHNSON received the Mississippi Valley Historical Association Annual Award.

JOJOINN LEE received a Travel Grant from the American Political Science Association.

EUGENE P. MILSTONE served as delegate, House of Delegates, Council on Social Work Education; member, Council on Social Work Research, member, Research Council, Southern Minnesota Chapter, and corresponding member, Study Group on Private Practice, National Association of Social Workers; and member, Committee on Pre-Social Work Sequence Curriculum, Minnesota Conference on Social Work Education.

JAMES W. NOEHL was made a Chartered Property and Casualty Underwriter by the American Institute for Property and Liability Underwriters, Incorporated; and received a Summer Fellowship from the Ford Foundation.

Museum of Natural History

W. J. BRECKENRIDGE served as chairman, Lecture Committee, Sigma Xi, Minnesota Chapter.

College of Pharmacy

FRANK E. DIGANGI served as chairman, and member, Committee on United States Pharmacopeia and National Formulary Revision, Minnesota State Pharmaceutical Association; and vice president and president, St. Paul Veteran Druggists Association.

OLE GISVOLD served as chairman, Committee, American Pharmaceutical Association; and received a Research Achievement Award from the American Pharmaceutical Association and a research project grant from the National Institutes of Health.

WILLARD J. HADLEY served as secretary, consultant on prescriptions, and first vice president, Minnesota Pharmaceutical Association.

GEORGE P. HAGER served as chairman, Committee on American Pharmaceutical Association Foundation Research Achievement Awards, member, Advisory Panel, National Formulary, and member, Editorial Advisory Board, *Journal of Pharmaceutical Sciences*, American Pharmaceutical Association; member, Advisory Panel, *SKF Pharmacy News*, Smith, Kline and French Laboratories; committee chairman, Modern Methods of Handling Chemical Information, National Academy of Sciences and National Research Council; member, Advisory Committee, Antiradiation Drug Program, Walter Reed Army Institute of Research; member, Medical Chemistry Study Section,

National Institutes of Health and United States Public Health Service; member, Panel on Narcotic Addiction, Office of Science and Technology, Executive Office of the President; member, President's Advisory Board, and chairman, Intraprofessional Relations Committee, Minnesota State Pharmaceutical Association; member, Resolutions Committee, and delegate, Canadian Conference of Pharmaceutical Faculties, American Association of Colleges of Pharmacy; member, The Chemical Abstracts Service Advisory Board, American Chemical Society; member, Undergraduate Science Education Panel, National Science Foundation; participant, Conference on Chemical Structure Coding, Federal Council for Science and Technology; consultant, Chemical Information and Data System, United States Army Research Office; member, Subcommittee on Guidelines for Review of Screening Applications, and member, Medicinal Chemistry Study Section, National Institutes of Health; participant, Conference on Drug Information Center, Federation of Societies for Experimental Biology; member, Nomenclature Review Board, United States Adopted Names Council; member, Scientific Council, Institute for Advancement of Medical Communication; and member, Editorial Advisory Board, *Current Contents*, Institute for Scientific Information.

HERBERT JONAS served as consultant to dean, Pharmaceutical Institute, consultant to Fulbright Scholar Committee, and guest professor, Institute of Pharmacognosy, Freie Universitat, Berlin. He also received a grant from the Atomic Energy Commission.

HUGH F. KABAT served as seminar moderator, Annual Meeting, member, Pharmaceutical Practice, member, Research Committee, coordinator, Upper Midwest Hospital Conference, committee member, Intraprofessional Relations, participant, Polio Vaccine Program, member, Professional Practice Committee, member, Professional Pharmacy Committee, Convention, and member, Publicity Committee, Convention, Minnesota State Pharmaceutical Association; consultant, Veterans Administration; consultant, Peter Klemtner Agency; examiner, Civil Service, Minneapolis; member, Resolutions Committee, American Association of Colleges of Pharmacy; member, Interprofessional Relations Committee, Minnesota Society of Hospitals of Pharmacy; and coordinator, Upper Midwest Hospital Conference, and member, Interprofessional Committee, Minnesota Hospital Association.

ROBERT H. MILLER served as presiding officer, 142nd Annual Meeting, general chairman, 9th National Medicinal Chemistry Symposium, and member, Executive Committee, Division of Medicinal Chemistry, American Chemical Society; chairman, Planning, Science Report Symposium, and member, Planning, Drugs and Chemicals, American Pharmaceutical Association; consultant, Bureau of Criminal Apprehension, State of Minnesota; consultant, Central Research, Minnesota Mining and Manufacturing Company; member, Pharmaceutical Education Committee, member, Professional Relations Committee, and chairman, Research Committee, Minnesota State Pharmaceutical Association; and member, National Ritual Committee, Kappa Psi. He also received the Educational Speaker Citation from the American Optometric Association 66th Congress.

CHARLES V. NETZ served as editor, *Proceedings*, and chairman, Professional Section Program, Minnesota State Pharmaceutical Association.

PHILIP S. PORTOGHESE received grants from the National Institutes of Health and the Mead Johnson Company.

EDWARD G. RIPPKE received a grant from the National Science Foundation.

TAITO O. SOINE served as consultant, Rowell Laboratories; member, Executive Council, Rho Chi Society; member, United States Pharmacopeia Revision Committee; and visiting lecturer, University of Texas. He also received the Lederle Pharmacy Faculty Award, the American Pharmaceutical Association Foundation Research Achievement Award, and a grant from the National Institutes of Health.

WALLACE F. WHITE served as consultant and witness, Use and Abuse of Drugs, Municipal and District Federal Courts.

Summer Session

CLARA KANUN served as editor, American Association of University Professors.

Institute of Technology

Administration

ATHELSTAN SPILHAUS served as member, Board of Trustees, Pacific Science Foundation; member, Board of Trustees, International Ocean Foundation; member, Board of Trustees, Science Services, Incorporated; member, Board of Trustees, American Museum of Electricity; member, Board of Directors, North Star Research and Developmental Institute; member, Board of Directors, American Museum of Archaeology; member, Board of Directors, American Association for the Advancement of Science; member, Advisory Board, World Book Encyclopedia; member, Advisory Board, Princeton Report; member, Educational Advisory Board, Planetary Physics; member, Advisory Panel, Biological Facilities, Natural Science Foundation; member, Advisory Board, Space and Scientific Training; member, Board of Awards, Institute of Aero Science; member, National Committee, Florence Agreement; member, Public Information Conference, National Safety Council; member, panel, Development of Motion Pictures, American Meteorological Society; member, Board of Trustees, and member, Museum Committee, St. Paul Institute; member, Board of Trustees, and member, Science Advisory Committee, Woods Hole Ocean Institute; member, Geophysics Research Board, member, Committee on Natural Resources, member, Committee on Polar Research, chairman, Committee on Oceanography, and chairman, Committee on Pollution, National Research Council and National Academy of Sciences; chairman, Fish Center, Aqua Advisory Board, United States Department of Interior; chairman, American Editorial Board, Commonwealth and International Library of Science Technology and Engineering; and chairman, Scientific Advisory Committee, American News Publishing Association.

FRANK VERBRUGGE served as president, American Association of Physics Teachers; member, Advisory Committee on Education, and member, Governing Board, American Institute of Physics; member, Editorial Board, *Physics Today*; member, Board of Trustees, St. Paul Institute; member, Evaluation Panels, National Science Foundation; and consultant, Science and Engineering Education, Ford Foundation.

Department of Aeronautics and Engineering Mechanics

ALLAN BLATHERWICK served as chairman, Committee on Flexural Test, American Society of Testing and Materials.

LAWRENCE GOODMAN served as invited lecturer, Colloquia, Universities of Manchester, Southampton, Newcastle-upon-Tyne, and Delft; and received a Senior Postdoctoral Fellowship from the National Science Foundation.

CHIN CHUN HSIAO served as participant, International Conference on Fracture; participant, Founders meeting, Society of Engineering Science; participant, Fourth International Congress on Rheology; and participant, Applied Mechanics Meeting, American Society of Mechanical Engineers.

DANIEL D. JOSEPH served as member, Committee on Engineering Education Goals, American Society of Engineering Education.

BENJAMIN J. LAZAN served as engineering consultant, Perkin Elmer Corporation; engineering consultant, and lecturer, Acoustical Fatigue Congress, United States Air Force; lecturer, North Atlantic Treaty Organization and Advisory Group for Aeronautical Research and Development Meeting in Rome, NATO; and lecturer and chairman, Symposium, American Society of Testing and Materials.

School of Architecture

WINSTON A. CLOSE served as member, Visiting Committee, School of Architecture, Massachusetts Institute of Technology.

RICHARD A. PETERSON served as consultant, Planning and Urban Design, Rockrise & Watson, Architects and Planners, San Francisco; lecturer, City Planning, University of California, Berkeley; member, Urban Design Committee, San Francisco Planning and Urban Renewal Association; and member, Educational Committee, Minnesota Section, American Institute of Physics.

RALPH E. RAPSON served as vice president, American Institute of Architects; board member, Walker Art Center; juror, Boston Architectural Center; juror, Design Composition, Dow Chemical Company; and juror, Central States Architecture Awards, Central States American Institute of Architects; and received the Religion Design for Lakewood Cemetery from *Progressive Architecture*; and the Honor Award for Guthrie Theatre, the Honor Award for Wilder Residences, and the Merit Award for Winton Houses from the Minnesota Society of Architects.

WALTER K. VIVRETT served as member, Social Science Committee, Gerontological Society; consultant, Housing, Housing and Home Finance Agency; and speaker, Long Term Care Facilities, American Hospital Association.

Department of Astronomy

KARLIS KAUFMANIS served as consultant, State Department of Education, University of Illinois Project; and visiting scientist of Astronomy, Minnesota Academy of Sciences.

WILLEM J. LUYTEN received the James Craig Watson Medal from the National Academy of Sciences; and served as vice president of the International Astronomy Union.

Department of Chemical Engineering

NEAL R. AMUNDSON served as member, Board of Directors, North Star Research, Developmental Institute; and general chairman, Joint Automatic Control Conference; and received the William H. Walker Award from the American Institute of Chemical Engineering.

RUTHERFORD ARIS served as lecturer, two week course, Humble Lecture Series, Humble Oil Company; and lecturer, one week course, Short Course on Optimization, Chemstrand Incorporated; and received a National Science Foundation Senior Postdoctoral Fellowship.

JOHN S. DAHLER served as participant, Gordon Conference on Liquids.

HOWARD DAVIS received a Fellowship from the National Science Foundation.

HERBERT S. ISBIN served as member, Nuclear Engineering Committee, and participant, Fluid Flow and Heat Transfer Meetings, Association of Midwest Universities; member, Radiation Advisory Committee, State of Minnesota; participant, Objective Criteria in Nuclear Engineering Education, American Society for Engineering Education and Argonne National Laboratory and Association of Midwest Universities; and participant, Nuclear Engineering Conference, Oak Ridge.

ARTHUR MADDEN, JR. served as member, National Program Committee, American Institute of Chemical Engineers; and received a National Science Foundation Science Faculty Fellowship.

GEORGE W. PRECKSHOT served as chairman, Chemical Engineering Review Panel, and member, Undergraduate Research Panel, National Science Foundation; consultant, Minnesota Industrial Commission, State of Minnesota; chairman, Public Relations Committee, American Institute of Chemical Engineers Meeting; and member, Advisory Board, Tau Beta Pi.

WILLIAM E. RANZ served as vice chairman, Engineering Science and Fundamentals Programs, American Institute of Chemical Engineers; and consultant, Humble Oil and Refining Company.

L. EDWARD SCRIVEN served as member, National Program Committee, American Institute of Chemical Engineers; and consultant, Socony Mobil Oil Company.

HENRY TSUCHIYA served as executive member, Division of Executive Committee on Microbial Chemistry, American Chemical Society; participant, COSPAR Meeting, Committee on Space Research of the International Council of Scientific Unions; chairman, Symposium on Chemical Engineering Science and Biological Science, American Institute of Chemical Engineers; and co-chairman, Atmospheric Biology Conference, National Aeronautics and Space Administration.

Department of Chemistry

HENRY A. BENT served as consultant, Visiting Scientist Conference, University of New York (Albany) National Science Foundation; and member, Editorial Board Meeting, Board of Publication of *The Journal of Chemical Education*, Division of Chemical Education, American Chemical Society.

ROBERT C. BRASTED served as guest professor, University of Calcutta, Jadaupur.

JOHN BRITTON received a National Science Foundation Senior Postdoctoral Fellowship.

STANLEY BRUCKENSTEIN served as speaker, Electrochemical Conference, American Academy of Arts and Sciences; and member, Electrochemical Committee, Analytical Division, International Union of Pure and Applied Chemistry.

RAYMOND M. DOBSON served as member, Endocrine Study Section, National Institutes of Health.

STUART W. FENTON served as consultant, American Cyanamid Company.

EDUARDO G. GROS served as lecturer, Symposium in Carbohydrate Chemistry, The Chemical Society of London; and participant, Symposium in Biosynthesis of Natural Products, National Research Council of Canada.

E. ALEXANDER HILL served as arrangement chairman, Minnesota Section, American Chemical Society.

Z Z. HUGUS, JR. served as consultant, Minnesota Mining and Manufacturing Company; and was elected a Fellow of the American Association for the Advancement of Science.

MAURICE M. KREEVOY received a Senior Postdoctoral Fellowship from the National Science Foundation.

WALTER LAUER served as council member, American Chemical Society.

EDWARD LEETE served as lecturer, London Meeting and Kyoto Meeting, International Union of Pure and Applied Chemistry; lecturer, Symposium, Canadian Institute of Chemistry; and member, National Institutes of Health, United States Public Health Service; and received a Sloan Foundation Fellowship.

SANFORD LIPSKY served as visiting lecturer, University of Illinois; and discussant, Organic Lasers, General Telephone and Electronic Labs, Office of Naval Research.

ROBERT LIVINGSTON served as participant, Symposium, National Science Foundation; speaker, Conference, United States Army Natick Laboratories; and speaker, Colloquium, Kettering Foundation; and received a Special Travel Grant, National Science Foundation.

ALBERT MOSCOWITZ served as guest scientist and lecturer, H. C. Oersted Institute, University of Copenhagen; censor, Licentiate Examinations, Den-

mark's Technical University; speaker, Pharmaceutical Conference, University of Wisconsin; and speaker, Polypeptides Symposium, Stanford, Office of Naval Reserve and Army Research Office; and received a Fellowship from the Alfred P. Sloan Foundation.

WAYLAND E. NOLAND served as consultant, Sun Oil Company; member, Nominating Committee, Minnesota Section, American Chemical Society; and chairman, Nominating Committee, Minnesota Chapter, Sigma Xi.

PAUL O'CONNOR served as consultant, Detroit Department of Education; visiting scientist, American Chemical Society; secretary and treasurer, Minnesota Academy of Sciences; consultant to India, State Department, and consultant, Chemical Institutes, Asia Foundation.

JOHN OVEREND served as member, Committee, Gordon Conference; member, Board of Management, Coblenz Society; and visiting scientist, American Physical Society Program; and received the Coblenz Memorial Prize from the Coblenz Society.

WILLIAM E. PARHAM served as chairman, organic division, American Chemical Society; editor-in-chief, *Organic Synthesis*; consultant, E. I. Dupont; and consultant, Sinclair Oil.

WARREN L. REYNOLDS received a National Science Foundation Senior Postdoctoral Fellowship.

ERNEST B. SANDELL served as member, Commission on Nomenclature, Analytical Section, International Union of Pure and Applied Chemistry.

R. STUART TOBIAS served as participant, Polymers, University of Western Ontario, Chemical Institute of Canada; and participant, Symposium on Group IV Elements, Division of Inorganic Chemistry, American Chemical Society; and received a National Science Foundation Overseas Travel Grant.

Department of Civil Engineering

ALVIN G. ANDERSON served as member, Writing Section on Local Scour, Task Committee on Preparation of Treatise on Sedimentation, and member, Arrangements Committee, American Society of Civil Engineers.

PAUL ANDERSEN served as visiting professor, University of Calcutta; and chairman, Steel Construction Conference, Center for Continuation Study, American Institute of Steel Construction.

CHARLES E. BOWERS served as chairman, Hydraulics Committee, and chairman, Water Resources Committee, Northwest Section, American Society of Civil Engineers.

JESSE E. FANT served as consultant, Examination Committee, Minnesota State Board of Registration for Architects, Engineers, and Land Surveyors; lecturer, Messenia Expedition to Greece; and technical assistant, Education Short Course in Water Studies, Corps of Engineers.

WALTER T. GRAVES served as member, Planning Committee, Steel Conference, American Institute of Steel Construction.

JOHN HANLEY served as consultant, Office of Civil Defense, Department of the Army; consultant, Naval Civil Engineering Laboratory, Department of the Navy; and chairman, Ad Hoc Committee on Civil Defense, Central Illinois Section, American Society of Civil Engineers; and received First Prize, Region 4, Shopping-Center Shelter Design from American Institute of Architects and Office of Civil Defense.

MILES S. KERSTEN served as member, Frost Committee, Highway Research Board; and contributor, International Conference on Permafrost, Building Research Advisory Board.

LYLE P. PEDERSON served as speaker, Annual Conference, City and Village Engineers Association of Minnesota.

JOHN F. RIPKEN served as member, Committee on Erosion by Cavitation or Impingement, American Society for Testing and Materials; and member, Task Committee on Non-Newtonian Flows, American Society of Civil Engineers.

EDWARD SILBERMAN served as chairman, Committee on Fluid Dynamics, chairman, Committee on Friction, member, Publishing and Program Committees, Engineering Mechanics Division, and member, Program Committee, Water Resources Conference, American Society of Civil Engineers; member, Naval Hydrodynamics Conference, and member, Conference on Hydrofoils, United States Navy Office of Naval Research.

EUGENE SKOK, JR. served as member, Committee on Strength and Deformation Characteristics of Pavement Sections, and member, Committee on Mechanics in Earth Masses and Layered Systems, Highway Research Board.

CHIEH-SHYANG SONG served as speaker, Water Resources Conference, American Society of Civil Engineers; and discussor, Winter Conference, American Society of Mechanical Engineers.

JOSEPH M. WETZEL served as member, Ad Hoc Committee, Symposium on Naval Hydrodynamics, Office of Naval Research, United States Navy.

NORMAN R. ZIEMKE served in planning and teaching, Water and Sewage Plant Operators School, Minnesota Board of Health and University of Minnesota.

Department of Electrical Engineering

VERNON D. ALBERTSON served as student group adviser, Executive Committee, Twin Cities Section, Institute of Electrical and Electronics Engineers; representative and co-chairman, Technical Session, American Power Conference, Illinois Institute of Technology; and member, Institute of Electrical and Electronics Engineers Student Activities Committee, National Electronics Conference, Electronics Industry.

DONALD E. ANDERSON served as co-chairman, Midwest Solid State Conference.

LEROY T. ANDERSON served as member, Advisory Committee, Medical-Technical Research Unit, United States Public Health Service.

WILLIAM F. BROWN received a Fulbright Research Grant from the United States Department of State.

PAUL A. CARTWRIGHT served as chairman, State Guidance Committee, Engineering Council on Development; and chairman, Subcommittee on Technical Education, Southwestern College Curriculum Committee, State College Board.

LOYST C. CAVERLEY served as city engineer and elected inspector, Examination Committee, Civil Service Board of Minneapolis.

KEITH S. CHAMPLIN served as exchange professor, Laboratoire de Physique, Ecole Normale Supérieure; technical consultant, Magnetic Controls Company; and member, Editorial Board, Transactions on Magnetic Tape Terminal, Institute of Radio Engineers.

EUGENE R. CHENETTE served as member, Semiconductor Electronics Education Committee, Ford Foundation and Educational Services, Incorporated.

ROBERT J. COLLINS served as chairman and organizer, Symposium on Light Amplification by Stimulated Emission of Radiation Applications, American Society for the Advancement of Science; chairman, Light Amplification by Stimulated Emission of Radiation Session, Science Writers of America; member, Quantum Electronics Sub Group, North Atlantic Treaty Organization Science Committee; member, Advance Projects Research Agency, Pentagon; and member, Special Group on Optical Microwave Amplification by Stimulated Emission of Radiation, Deputy Director of Research and Engineering, Office of the Secretary of Defense, United States Government.

JORGE R. FONTANA served as participant, Symposium on Optical Radio-frequency Amplification by Stimulated Emission of Radiation, New York City; and participant, Light Amplification by Stimulated Emission of Radiation and Application Symposium, Ohio State University.

BERNARD HAXBY served as member, Ad Hoc Committee on Vocational and Technical Education in Minnesota, Minnesota Liaison Committee on Higher Education; and member, Conference, Programs for the Supervision of Student Engineers, University of Colorado.

C. BRUCE JOHNSON served as secretary, Gamma Alpha Graduate Scientific Society.

ERNEST B. LEE served as organizer, Minneapolis Joint Automatic Control Conference; and received the Gold Medal Award for Outstanding Achievement in Engineering from National Pi Tau Sigma.

SHAO-CHUNG LEE served as consultant, Minneapolis Honeywell Regulator Company.

ROY H. MATTSON served as participant, 1964 Professors Conference, General Electric Corporation.

ALLAN H. MORRISH served as member, Program Committee, and member, Local Committee, Conference on Magnetism and Magnetic Materials; and editor, *Magnetic Materials Digest*.

HENDRIK J. OSKAM served as member, Executive Committee, Division of Electron Physics, The American Physical Society.

GERALD L. PARK received a Raytheon Fellowship.

MAHMOUD RIAZ served as participant, International Conference on Information Processes, Munich.

ALDERT VAN DER ZIEL served as session chairman, Regional Meeting on Molecular Electronics, Institute of Electrical and Electronics Engineers.

Department of Geology and Geophysics

PRESTON E. CLOUD, JR. served as member, Conference, Geological Society of America; participant, Meeting, Special Committee on Oceanic Research; member, Advisory Committee on Oceanography, Ad Hoc Conference, Smithsonian Institution; member, Nominations Committee, National Academy of Sciences; and co-chairman and organizer, Precambrian Organisms, Geophysical Laboratory, Carnegie Institute; and received a Fellowship from the American Geophysical Union.

CAMPBELL CRADDOCK served as visiting geologist, New Zealand Geological Survey; participant, Ad Hoc Meeting on Antarctic Geology, Committee of Polar Research, National Academy of Sciences; speaker and session chairman, Symposium on Antarctic Geology, Scientific Committee on Antarctic Research; and director of six Antarctic Geologic Expeditions, National Science Foundation.

PAUL W. GAST served as member, Subcommittee on Nuclear Geophysics, and member, Conference on Nuclear Geophysics, National Academy of Sciences and National Research Council; member, Conference on the Origin of the Atmosphere of the Earth and Planets, Institute for Space Study; member, Geochemistry Panel, Apollo Science Program, National Aeronautics and Space Administration; and consultant, Mass Spectrometry, Ciudad Universitaria, Mexico; and was made a Carnegie Research Associate.

CORNELIS R. JANSSEN received a Fulbright Travel Grant from the Conference on National Research Council, and a Postdoctoral Fellowship from Itasca Biological Station.

ROBERT O. MEGARD received a Biological Research Stipend from Itasca Biological Station.

KENNETH G. MCKENZIE served as participant, symposium on Ostracoda as Ecological and Paleocological Indicators, Naples; member, Classification Committee on Recent Ostracoda; and member, Ecologic Data Committee on Recent Ostracoda; and received a Senior Post-Graduate Studentship from Commonwealth Scientific and Industrial Research Organization; and a scholarship from the Italian Government.

PAUL E. SCHEERER served as speaker, Annual Meeting, American Ceramic Society.

PAUL K. SIMS served as member, State Mapping Board, and member, Minnesota Outdoor Recreation Resources Commission, State of Minnesota; member, Geology Unit, Program Committee, American Institute of Mining and Metallurgical Engineers; member, Program Committee, Society of Economic Geologists; and delegate, Universities Council on Hydrology.

JOHN E. STONE served as alternate delegate, Annual Meeting, Universities Council on Hydrology; and member, Advisory Committee, The Joint Program, Metropolitan Planning Commission.

FREDERICK M. SWAIN served as research geologist, United States Geologic Survey; vice chairman, Faculty Association of Natural Science; secretary-treasurer and member, Scholarships and Awards Committee, Minnesota Chapter, Sigma Xi.

HERBERT E. WRIGHT served as panel member and representative, Geologic Society of America.

TIBOR Z. ZOLTAI served as speaker, Convention, American Association of Crystal; speaker, Lecture Series, Geologic Society of Minnesota; speaker, X-Ray School, and speaker, Special Meeting, California Research Corporation.

Department of Mathematics

ALFRED AEPPLI served as speaker, Conference on Several Complex Variable and Complex Manifolds, Notre Dame University.

EUGENIO CALABI received a Guggenheim Foundation Fellowship.

STEVEN A. GAAL served as lecturer, chairman, and participant, Number Theory Conference, National Science Foundation.

LEON W. GREEN served as visiting mathematician, North Central District, Mathematics Association of America; and participant, International Congress of Mathematics.

LAWRENCE MARKUS served as visiting professor, Columbia University; speaker, Conference on Dynamical Systems; and speaker, Conference on Automatic Control; and received a Guggenheim Foundation Fellowship and a Fulbright Fellowship.

R. JAMES MILGRAM served as lecturer, Lecture Series, Scuola Normale Superiore, Pisa.

HELMUT ROHRL served as visiting professor, Harvard University; and speaker, Conference on Theory of Functions at Notre Dame, American Mathematical Society.

JAMES SERRIN, JR. served as organizer and lecturer, Symposium on Mathematics and Physics, United States Air Force, American Mathematics Society; and lecturer, Symposium on Continued Mechanics, Society for Natural Philosophy.

HUGH TURRITTIN served as speaker, Symposium on Asymmetrical Solutions, Mathematical Research Center, United States Army.

HANS WEINBERGER served as lecturer, Society for Industrial and Applied Mathematics; and speaker, Symposium on Partial Differential Equations, National Academy of Sciences and Union of Soviet Socialist Republics Academy of Sciences.

Department of Mechanical Engineering

JOHN E. ANDERSON served as research scientist and space system manager, Minneapolis Honeywell.

SANT RAM ARORA served as consultant, Social Security Office; and Research in Systems Engineer and member, Technical Staff, Bell Telephone Laboratories.

PERRY BLACKSHEAR served as member, Fellowship Committee, National Science Foundation; member, Advisory Screening Committee, Committee on International Exchange Persons, Conference Board of Associated Research Councils.

SAUL BLUMENTHAL served as referee, Journal Operations Research Society of America and Annals of Mathematical Statistics.

JOHN N. CLAUSEN served as participant, Forum, Engineering Education, and participant, Seminar, College Program, Ford Motor Company; participant, panel, North-Midwest Section Meeting, American Society of Engineering Education; participant, Conference, Stout State College; and consultant, Minnesota Private Trade Schools, Minnesota State Department of Education.

ERNST R. G. ECKERT served as member, Office of Science Research, United States Air Force; member, Advisory Committee on Orderly Research, National Academy of Science; member, Advisory Council, Mechanical Engineering Department, Princeton University; member, Panel Screening Applicants, National Foundation Graduate Fellowship Program, National Academy of Sciences and National Research Council; member, Editorial Advisory Board, American Division, Commonwealth and International Library of Science, Technology, Engineering, and Liberal Studies; co-chairman, Honorary Advisory Education Board, International Journal of Heat and Mass Transfer; American representative, American Flame Research Committee; American representative, Aerodynamics Panel, International Committee on Flame Radiation; and visiting professor, Purdue University.

EDWARD A. FLETCHER served as lecturer, Committee on Fire Research, Office of Naval Research; lecturer, American Institute of Aeronautics and Astronautics; and discussant, Committee on Fire Research, Department of Defense.

FULTON HOLTBY served as lecturer, Casting Seminar, American Society for Metals; and received the 25 Year Service Award from the American Society for Metals.

RICHARD C. JORDAN served as member, Electron Industry Committee, State of Minnesota; member, Advisory Council, Association of Applied Solar Energy; member, Committee on Thermal Heat and Moisture Transfer, Research Council; member, Graph Steering Committee, and member, Solar Energy Committee, National Science Foundation; member, Engineering Social Science Committee, member, Committee on Thermal Heat and Moisture Transfer, chairman, United States National Committee, Institute on Industrial Research, and chairman, Division of Engineering and Industrial Research, National Academy of Sciences and National Research Council; member, Technical Advisory Committee, chairman, Solar Energy Technical Committee, American Society of Heating, Refrigeration, and Air Conditioning Engineers; member, Technical Advisory Committee, member Lamme Award Committee, and vice-chairman, program chairman, and secretary, Graduate Studies Division, American Society of Engineering Education; chairman, delegate from National Academy of Sciences and National Research Council, 11th International Congress on Refrigerators, and vice president, Technical Board, International Institute of Refrigerators; and delegate, World Power Conference.

ADOLPH O. LEE served as member, Education Committee, Minnesota Society of Professional Engineers; and member, Board of Directors, Minnesota Section, American Society of Mechanical Engineers.

BENJAMIN Y. H. LIU served as representative, American Power Conference, Illinois Institute of Technology; vice chairman, Technical Committee

on Solar Energy Utilization, American Society of Heating, Refrigeration, and Air Conditioning Engineers; and representative, conference on Direct Energy Conversion, Association of Midwest Universities and Argonne National Laboratories.

CLARENCE E. LUND served as speaker, International Building Industry Congress; and speaker, Catholic Hospital Association of the United States and Canada.

GAYLE McELRATH served as lecturer, 10th Annual Management Conference, National Management Association; lecturer, Qualitative Continuum Convention, American Society for Quality Control; and participant, North-Midwest Section Meeting, American Society of Engineering Education.

EMIL PFENDER served as speaker, International Conference on Ionization Phenomena in Gases, Paris.

JAMES L. REYNOLDS served as training consultant, UNIVAC Division, Sperry Rand; training consultant, Control Data Corporation; and lecturer, Regional Conference, American Institute of Plant Engineers.

EPHRAIM M. SPARROW served as technical lecturer, 4th Annual Conference on Engineering Systems, Brigham Young University.

RICHARD D. SPRINGER served as member, Protective Construction Conference, head, Radiation Analysis, Architects and Engineers, and head, Radiation Analysis Updating Workshop, Office of Civil Defense.

JAMES THRELKELD served as member, Psychrometrics, member, Education, member, Heat Transfer, and member, Research and Technical committees, American Society of Heating, Refrigeration, and Air Conditioning Engineers.

KENNETH T. WHITBY served as chairman, Task Group, Committee E-1, Subcommittee 11, and chairman, Task Group, Committee D-22, Subcommittee 11, Society of Testing and Materials; member, Part Sizing Committee, Association of Cereal Chemistry; participant, Air Quality Criteria, Gordon Conference; member, Aeronautics Contract Review, Division of Biological Atomic Energy Commission; and secretary, American Society of Testing and Materials.

School of Mineral and Metallurgical Engineering

ADRIAN DORENFELD served as representative for American Institute of Mining, Metallurgical, and Petroleum Engineers, Committee on Standards, American Society of Testing and Materials; and member, Panel, American Arbitration Association.

CHARLES FAIRHURST served as director, International Society of Rock Mechanics.

JAMES E. LAWVER served as chairman, Education Committee, Minnesota Section, American Institute of Mining, Metallurgical, and Petroleum Engineers.

MORRIS NICHOLSON served as chairman, Industrial Education Course on Meteorological Education, Meteorological Society, American Institute of Mining, Metallurgical, and Petroleum Engineers, and Society for Metals.

EUGENE PFLIEDER served as program organizer, 4th and 6th Rock Mechanics Symposia and 11th Experimental Drill Symposium, University of Minnesota, Pennsylvania State, Colorado and Montana Schools of Mines; member, Minnesota Task Force, Minnesota Natural Resources Association, State of Minnesota; director, and editor, Surface Mining Volume, Society of Mining Engineers, American Institute of Mining, Metallurgical, and Petroleum Engineers.

RICHARD SWALIN served as organizer, Liquid Metals Symposium, member, Physics and Chemistry of Solids Committee, and chairman, Mathewson Award Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers.

JUSTUS H. VOLLMER served as research engineer, Jones and Laughlin Steel Corporation, Michigan.

GEORGE WEATON served as alternate delegate, Minnesota Section, American Institute of Mining, Metallurgical, and Petroleum Engineers.

DONALD YARDLEY served as chairman, Program, Mineral Economy Committee, American Institute of Mining, Metallurgical, and Petroleum Engineers; and consultant, Geology and Engineering, Kennecott Copper Ore School of Mines.

School of Physics

MARK BOLSTERLI served as member, International Symposium on Direct Interactions, Padua; member, Advisory, Midwest Nuclear Theory, Argonne National Laboratory; and consultant, Los Alamos Scientific Laboratory, New Mexico; and received a Ford Foundation Fellowship from the University of Copenhagen, and a Guggenheim Foundation Fellowship.

DALE L. CHRISTENSEN served as evaluation engineer, Minneapolis Honeywell Regulator Company.

RICHARD HENDRICKS served as participant, 10th National Symposium, American Vacuum Society; and participant, 2nd Annual Seminar, Varian Vacuum.

EDWARD L. HILL served as participant, Seminar on Philosophy of Science, University of Delaware.

WALTER JOHNSON served as chairman, University District Improvement Association; visiting scientist, American Institute of Physics; and editor, proceedings, and participant, Second International Conference on Nuclidic Masses, International Union of Pure and Applied Physics, National Academy of Sciences, and National Research Council.

PAUL KELLOGG served as speaker, International Conference on Cosmic Rays, Jaipur, International Union of Pure and Applied Physics.

JAMES R. MAXWELL served as speaker, Washington Meeting, American Physical Society.

EDWARD NEY received a Senior Postdoctoral Fellowship from the National Science Foundation.

ALFRED NIER served as member, Committee on Masses, International Union of Pure and Applied Physics; member, Planning Committee, Committee on Masses, Union of Pure and Applied Physics; member, Research Committee, Upper Midwest Research and Development Council; member, Advisory Committee, Radiation Safety, State Department of Health; member, Board of Directors, North Star Research Institute; and vice president, Board of Directors, Midwestern Universities Research Association.

CARL H. POPPE served as speaker, International Conference on Fast Neutron Physics, Rice University.

PETER SIGNER served as program participant, Gordon Conference; and program participant, Conference on Origin of Atmospheres and Oceans, National Aeronautics and Space Administration.

C. J. WADDINGTON served as participant, Cosmic Ray Conference, Indian Government, International Union of Pure and Applied Physics; and participant, Midwest Cosmic Ray Conference, University of Denver; and received a Fellowship from the American Physical Society.

WILLIAM R. WEBBER served as member, Space Sciences Steering Committee, Fields and Particles, National Aeronautics and Space Administration.

JAMES H. WERNTZ, JR. served as member, Regional Council, State of Minnesota Physics, American Institute of Physics; chairman, American Association of Physics Teachers Committee; and member, Educational Testing Service Committee to write Graduate Record Exam in Physics.

JOHN H. WILLIAMS served as president, American Physical Society.

WILLIAM ZIMMERMAN, JR. served as member, Graduate Fellowship Panel, National Science Foundation, National Academy of Sciences and National Research Council.

University Press

JOHN ERVIN, JR. served as chairman, Scholarly Books in America Committee, Association of American University Presses.

College of Veterinary Medicine

Department of Veterinary Anatomy

ALVIN F. WEBER served as president, American Association of Veterinary Anatomy; and section chairman, Conference of Veterinary Research Works, American Veterinary Medicine Association.

Department of Bacteriology and Public Health

CALVERT T. LARSEN served as judge, Twin City Science Fair, Twin City High Schools and Minnesota Academy of Sciences.

ROBERT K. LINDORFER served as president, Henrici Society of Microbiology.

BENJAMIN S. POMEROY served as secretary, Minnesota Veterinary Medicine Association; member, State Section Conference, and member, Research Council, American Veterinary Medicine Association; member, Technical Advisory Committee, Poultry Inspection, United States Department of Agriculture and American Marketing Service; member, North Central Technical Committee, and member, Technical Committee, Air Sacculitis Research, United States Department of Agriculture; member, Committee on Typhoid Eradication, American Association of Avial Pathology; and chairman, Minnesota Breeder Hen Committee, Minnesota Turkey Growers; and received an Honorary Life Membership in the Texas Poultry Association.

Department of Veterinary Medicine and Clinics

HARVEY H. HOYT served as president, Minnesota Mastitis Council.

DONALD W. JOHNSON served as program chairman, Suburban Veterinary Medicine Association; general chairman, Practitioners Clinic, Minnesota Veterinary Medicine Association; and president, Civic-Commerce Association.

GEORGE W. MATHER served as vice president, American Society of Veterinary Ophthalmology; and national secretary, Phi Zeta.

DALE K. SORENSON served as member, State Civil Defense Committee, and chairman, Infectious Disease Committee, Minnesota Veterinary Medicine Association; and chairman, Nomenclature Committee, American Veterinary Medicine Association.

Department of Veterinary Diagnostic Laboratories

JOHN M. HIGBEE served as secretary-treasurer, Twin City Veterinary Medicine Association; member, President's Advisory Board, and chairman, Infectious Disease Committee, Minnesota Veterinary Medicine Association; and participant, Conference on Continuing Education of Veterinary Medicine, Committee for Institutional Cooperation.

GLEN H. NELSON served as chairman, Program Committee, and panel moderator, State Veterinary Medical Convention, Minnesota Veterinary Medicine Association; member, Executive Board, Minnesota Veterinary Alumni Association; and program participant, Symposium on Mycotoxin in Foodstuffs, World Health Organization.

Department of Veterinary Pathology and Parasitology

ROGER A. BALL received a Leaders in American Science Award.

WILLIAM J. BEMRICK served as chairman, Nominating Committee, 15th Annual Midwest Conference, Midwest Parasitologists.

HENRY J. GRIFFITHS received the Distinguished Teacher Award from Norden Laboratories, Lincoln, Nebraska.

Department of Veterinary Physiology and Pharmacology

ARCHIE L. GOOD served as member, Subcommittee for Submission of New Project Proposal, and chairman, North Central Technical Committee, United States Government.

PAUL B. HAMMOND served as member, Toxicology Study Section, United States Public Health Service.

EDWARD F. JANKUS received a grant from the Heart Institute of the National Institutes of Health.

CLARENCE M. STOWE served as program participant, Revision Committee, National Formulary; and program participant, Federal Meetings, Federal Society of Experimental Biologists.

Department of Veterinary Surgery and Radiology

JOHN P. ARNOLD served as chairman, Committee on Practice, Grievance and Ethics, Minnesota State Veterinary Medical Association; and consultant, Colombia, Agency for International Development.

DIVISIONS OF EDUCATIONAL RELATIONSHIPS AND DEVELOPMENT

STANLEY J. WENBERG served as member, Educational Policies Commission, Minnesota Education Association; committee chairman, Council of State Governments; committee chairman, Midwest Conference of Governors; board member, International Center for Students and Visitors; and board member, Minneapolis Chamber of Commerce; and received the Campaign Award from Hennepin County United Fund.

Office of Admissions and Records

THEODORE E. KELLOGG served as member, School Relations Committee, and chairman, General Session, Annual Meeting, American Association of Collegiate Registrars and Admissions Officers; and received the Outstanding Achievement Award from *Time* and *Life* through the American Association of Collegiate Registrars and Admissions Officers.

TRUE E. PETTENGILL served as chairman, Big Ten and University of Chicago Registrars and Admissions Officers; member, Committee on Minimum Data and Definitions, American Association of Collegiate Registrars and Admissions Officers; and member, Committee on Honorary Life Memberships, Upper Midwest Association of Collegiate Registrars and Admissions Officers.

R. E. SUMMERS served as member, Steering Committee, African Scholarship Program of American Universities; chairman, General Motors National Scholarship Program; and president, Upper Midwest Association of Collegiate Registrars and Admissions Officers. On invitation, he gave a statement on veterans' education before the Subcommittee on Labor and Public Welfare, United States Senate.

Dean of Students Office

HENRY E. ALLEN served as board member, Foreign Policies Association of Minnesota; vice president, American Indian Employment and Guidance Center; board member, Minnesota International Center; member, Mayor's Com-

mittee on Human Relations, City of Minneapolis; member, Governor's Committee on Human Rights, member, Advisory Council on Children and Youth, and member, Indian Action Committee, State of Minnesota; member, Indian Advisory Committee, American Civil Liberties Union; and group chairman, Statewide Human Rights Conference, Governor's Human Rights Committee.

RALPH F. BERTIE served as consultant in India, Ford Foundation; and member, Standing Committee on Tests, Educational Testing Service.

EMANUEL M. BERGER served as chairman, Foreign Student Program, and recorder, Convention Program on Research in Higher Education, American Personnel and Guidance Association; and member, State Vocational Counseling Examination Board.

DAVID P. CAMPBELL served as member, Committee on Revision of Strong Vocational Interest Inventory Test, Stanford University; and director, Educational Study, United States Overseas.

THEDA HAGENAH served as treasurer, and senator, American College Personnel Association; and member, Science Affairs Committee, American Psychological Association.

ALBERT B. HOOD served as visiting professor, National Defense Education Act Institute, University of Utah; membership chairman, and program chairman, American College Personnel Association; and member, Steering Committee, State Department of Education.

HAROLD R. MARQUARDT served as member, Commission III, American College Personnel Association.

HUGH J. McCARDLE served as national chairman, Outstanding Doctoral Dissertation Award, member, Planning Committee, Region IV, First International Education Conference, and committee secretary, Biennial Conference, Lincoln, Nebraska, Phi Delta Kappa; state representative, and member, Financial Aids Conference in Purdue, Midwest Association of Student Financial Aid Administrators; and member, Education Committee's Sub-committee on Financial Education, Governor's Commission on Status of Women, State of Minnesota.

MABELLE McCULLOUGH served as consultant, Executive Committee, South East Minneapolis Planning and Cultural Committee; off-campus housing consultant, Southern Illinois University, and chairman, Off-Campus Housing, Association of College and University Housing Organization; roster chairman, Minnesota Division Board, American Association of University Women; program chairman, Executive Committee, Wesley Foundation; chairman, Education Committee, Governor's Commission on Status of Women, State of Minnesota; and recording secretary, College and University Alumni Club Board, Columbia University.

JACK C. MERWIN served as consultant editor, *American Educational Research Journal*; member, Advisory Committee on Guidance, Counseling and Testing, Minnesota State Department of Education; chairman, Joint Session, Annual Meetings, American Educational Research Association and National Council on Measurement in Education; and subcommittee chairman, Minnesota High School-College Relations Committee.

JOSEF MESTENHAUSER served as Fulbright lecturer and consultant, Department of State; adviser, International Affairs Committee, Minnesota Student Association; coordinator, Conference on Foreign Student Leadership, Minnesota Student Association, National Student Association and Office of the Dean of Students; adviser, International Student Council; chairman, Research Committee, National Association of Foreign Student Advisors; and member, University International Exchange, Minnesota Student Association and Office of the Dean of Students.

FORREST G. MOORE served as chairman, National Conference Committee, National Association of Foreign Student Advisors; member, Region Advisory Committee, Institute on International Education; and chairman, International Relations Committee, American Personnel and Guidance Association.

GERHARD NEUBECK served as chairman, Finance Committee, National Council on Family Relations; and member, Nominating Committee, American Association of Marriage Counselors; and was made a Fellow of the American Association of Marriage Counselors.

ALTON L. RAYGOR served as member, Editorial Advisory Board, *Journal of Developmental Reading*; member, Research Advisory Committee, National Reading Research Foundation; organizing chairman, International Reading Association; chairman, Ethics Committee, Minnesota Reading Association; member, Program Committee, National Reading Conference; and treasurer, North Central Reading Association.

JAMES H. REEVES, JR. served as assistant director, Far East Seminar, Asia Foundation, National Association of Foreign Student Advisors.

GEORGE B. RISTY served as chairman and panel consultant, National Defense Student Loan Program, United States Office of Education; chairman, Minnesota Indian Scholarship Committee, State and Federal and Lay People; chairman, School Selection Committee, Great Northern Railroad Company; chairman, School Selection Committee, Government Employment Market; member, School Selection Committee, Tozer Foundation; chairman, School Selection Committee, International Milling Company; chairman, Financial Aid Conference, Midwest Association of Student Financial Aid Administrators; member, Planning Board, Student Financial Aid Committee, American College Personnel Association; member, Subcommittee on Needs, College School Service; member, Student Financial Aid Committee, College Entrance Examinations Board; and chairman, School Selection Committee, Gamble-Skogmo Foundation.

VERA M. SCHLETZER served as member, Governor's Commission on Status of Women, State of Minnesota.

GERALD M. SIEGEL served as chairman, Section of Meeting, American Speech and Hearing Association.

CLARK D. STARR served as member, Professional Advisory Committee, National Society for Crippled Children and Adults; and member, Professional Services Board, American Speech and Hearing Association.

R. EDITH STEDMAN served as president, and program chairman, State Convention, Minnesota Association of Women Deans and Counselors; member, National Advisory Board, area representative, Education Area, and national committee member, Standards in Higher Education, American Association of University Women.

EDWARD O. SWANSON served as psychological consultant, American Board of Dermatology, Minnesota National Laboratory on Mathematics, and Mens Dormitory Counseling; president, and workshop chairman, Twin City Vocational Guidance Association; consultant, High Schools of Fridley, Edina, St. Paul Park, Red Wing, Rochester, Faribault, and Maplewood Junior; and sponsor, Workshop on Automation.

ELAINE C. WALSTER received a General Electric Fellowship from Stanford.

EDMUND G. WILLIAMSON served as consultant and chairman, Vocational Rehabilitation and Education Advisory Committee, United States Veterans Administration; member, Advisory Committee, and consultant, National Defense Education Act Counseling Institute, United States Department of Health, Education, and Welfare; chairman, Commission VIII, National Association of Student Personnel Administration; and chairman, Langmuir Executive Committee, National Association for Student Advancement; and received the Nancy C. Wimmer Award from American Personnel and Guidance Association.

University Health Service

DONALD W. COWAN served as coinvestigator, Research Grant, Relationship of Air Pollution to Allergic Diseases, United States Public Health Service; representative, Annual Meeting, British Student Health Association, Aber-

deen, Scotland, American College Health Associations; and coinvestigator, Research Grant, Study of the Human Menstrual Cycle, coinvestigator, Research Grant, Panel Studies on the Human Menstrual Cycle, and principal investigator, Research Project Grant, Tampon Study.

EDWARD J. DVORAK served as member, Professional Advisory Committee, Architectural Barriers Educational Survey Project, Minnesota Society for Crippled Children and Adults; member, Public Health Coordinating Council of the Greater St. Paul United Fund and Council, Inc.; and editor, *Newsletter*, and member, Editorial Committee, *Journal*, American College Health Association.

PHILLIP D. KERNAN served as medical coordinator, Pakistan II, III, VII, and VIII, and India 1 and 3, Peace Corps.

GEORGE S. MICHAELSEN served as consultant, Architectural and Engineering Branch, Division of Hospital and Medical Facilities, consultant, Environmental Services Branch, Division of Research Services, National Institutes of Health, and consultant, Research Branch, Division of Radiological Health, United States Public Health Service; consultant, G. T. Schjeldahl Company, Northfield; member, Advisory Committee on Radiological Safety, and member, Advisory Committee on Minnesota Poison Information Center, Minnesota State Board of Health; president, Board of Regents, Augsburg College; member, Board of Trustees, Lutheran Deaconess Hospital; governor, Lutheran Institute for Human Ecology, Park Ridge, Illinois; principal investigator, Research Project, Microbiology of Industrial Clean Rooms; and chairman, Environmental Health and Safety Section, American College Health Association.

GUSTAVE L. SCHEFFLER served as chairman, Education Committee, and chairman, Planning Annual Institutes, American Society of Safety Engineers; and chairman, Accident Report Form Evaluation Committee, American College Health Association.

NORMAN V. STEERE served as member, Laboratory Safety Committee, member, Executive Committee, and secretary, Campus Safety Association; and member, Education Subcommittee, Safety Life Committee, National Fire Protection Association.

Department of Intercollegiate Athletics

ROY GRIAK served as district president, American Association of Health, Physical Education and Recreation.

GLEN A. REED served as member, Financial Aid Office Meetings, Big Ten; and assistant tournament manager, Mid-East Basketball Tourney, National Collegiate Athletic Association.

Department of Student Unions

GORDON L. STARR served as research director, National Industrial Recreation Association; trustee, National Industrial Recreation Foundation; member, National Advisory Committee on Recreational Research; member, National Committee on Recreation Standards; president, and chairman, Job Placement Committee, Minnesota Recreation Association; member, Inter-Association Committee, and representative to Federation of National Professional Organizations for Recreation, Association of College Unions; chairman, Recruitment Committee, American Recreation Society; and member, Executive Board, American Recreation Society.

University Relations

WILLIAM L. NUNN served as trustee, Twin City Area Educational Television Corporation; visiting lecturer, Summer Session, Colorado State University; chairman, District Conference, American College Public Relations Association; member, Board of Directors, and member, Public Relations Office, Minneapolis Council of the Navy League of the United States; member, Sub-

urban Relations Committee, Minneapolis Chamber of Commerce; member, Cedar-Riverside Area Council; member, Citizens Committee for the Taconite Amendment; and chairman, Public Relations Group, Big Ten.

DIVISIONS OF BUSINESS ADMINISTRATION

CLINTON T. JOHNSON served as consultant, National Heart Institute, National Institutes of Health.

ROY V. LUND served as member, Board of Directors, and officer and representative, Midwest Section, National Association of Physical Plant Administrators of Colleges and Universities.

LAURENCE R. LUNDEN served as secretary, and member, Board of Directors, Midwestern Universities Research Association; member, Board, Hennepin County Tuberculosis Association; consultant, Committee on Taxation and Fiscal Reporting to the Federal Government; member, Committee on Institutional Research Policy, American Council on Education; member, Joint Committee of Business Officers, Association of Land-Grant Colleges and Universities—National Association of State Universities; member, Administrative Committee, Graduate School of Banking, University of Wisconsin; member, Board of Trustees, Farmers & Mechanics Savings Bank, Minneapolis; member, Neurology Program-Project Committee, National Institutes of Health; member, Board of Trustees, Fairview Hospital; member, Board of Directors, Velie-Ryan Corporation; treasurer, Central Lutheran Church; trustee, Luther College, Decorah, Iowa; member, Board of Directors, and member, Executive Committee, North Star Research and Development Institute; and director, University of Minnesota Foundation.

THE WORK OF THE UNIVERSITY

Divisions of Academic Administration

INSTITUTE OF AGRICULTURE

Agricultural Experiment Station

Research conducted in the Experiment Station involves agriculture, forestry, home economics, and certain phases of veterinary medicine. It is directed both to the underlying fundamentals useful in problem solving and to the development of solutions to current problems.

During this biennium, research in the several departments of the experiment station contributed to such areas as a better understanding of winter injury in plants, the residual effects of agricultural chemicals applied to the soil, improved methods of preserving semen, and new developments in marketing, storage, and utilization of agricultural products. In addition, the practices for improved management with the herds and flocks of the experiment station have resulted in more efficient production of meat, milk, and fiber. This information is applicable to commercial farm operations.

Funds allocated to research come from several sources; the direct state appropriation amounts to 45 per cent of the total and includes salaries and supplies. The total state support, including contractual funds from other state agencies and including sales, provides 60 per cent of the total funds allocated to the Experiment Station. Federal grants through Hatch and regional research funds are about 15 per cent of the total. Total federal sources, including the Atomic Energy Commission, U. S. Public Health Service, National Science Foundation, and others, is 32 per cent of the total allocation. The remaining 8 per cent comes from industry, foundations, and farm and trade association grants for specific types of research.

The building program passed by the 1963 Legislature has made it possible for advance planning and construction which will greatly further the research in biochemistry, plant physiology, agronomy, plant genetics, and soils. The second unit of the Forestry Utilization Laboratory will greatly aid this expanding area of research important to the forest industry of Minnesota. But to further the research activities of the department of Horticultural Science and Entomology, Fisheries, and Wildlife, it is important that new facilities become available.

During this biennium some significant developments have strengthened the research program of the Experiment Station. One is the increased research coordination with the branch experiment stations through joint appointments with St. Paul Campus departments for many members of the professional staff at the stations. This coordination has brought about a greater liaison between the department and the research worker at a given station, resulting in more unified planning and efficiency in research. The major emphasis at the branch experiment stations continues to be toward applied research. However, with the high degree of training now possessed by most of the staff at these stations, more intensive research activity is underway, and some staff members of the various stations will conduct research in the departments on the St. Paul Campus during certain times of the year.

The past 2 years have seen a concerted effort to involve several disciplines in approaching solutions to many problems of concern to the Experiment Station. A few examples will illustrate. First, increased efficiency in forage production, storage, and utilization involves six St. Paul Campus departments with the aim of determining, on a full lactation basis, the efficiency

of milk production from high vs. low quality forage. The initial studies with bred heifers already show that longer term feeding trials are necessary if we are to truly know how animals react to differences in forage composition. Most studies have been of a 1- to 2-months duration. Second, winter hardiness studies, both in the field and in control chambers, show that the winter injury on arborvitae is a result of cell rupturing due to sudden changes or differential temperatures which occur in the late winter and early spring months. This knowledge will be helpful in the development of more winter resistant plant species; but, more important, it leads to better understanding of the phenomenon of winter injury in many plant species commonly grown in Minnesota. Third, the soybean improvement program involves several departments. It is giving attention to improving quality of soybeans for the domestic and Asiatic market. In addition, the introduction of disease and insect resistance and a better understanding of the physiology of the soybean plant are part of this research.

The regional research effort has been in operation 18 years. A new system of allocating resources to the several states in the North Central region has been underway for the past year. Each director has the privilege of putting his allocations from this source into specific projects. In Minnesota we intend to place increased emphasis on total resource development including water, forest, and land, with ancillary studies which consider effects on people as the rural areas adjust to the forces of change. Another area in which we have competence and will develop regional leadership is the area of plant stress, as illustrated by winter hardiness. Within the several departments and in the varying disciplines in these departments we have developed a corps of scientists already well on the way to understanding the phenomenon of plant stress, whether from drought, lack of nutrients, or winter injury.

Our relationships with USDA through contractual arrangements and cooperation with the Soil and Water Conservation Laboratory at Morris continue at a high level. This year we will dedicate the Potato Processing Laboratory at East Grand Forks, which is a joint venture between North Dakota, Minnesota, the U. S. Department of Agriculture, and the Red River Valley Potato Growers Association. The initial research program for the laboratory should bring to light some of the cultural and storage problems which affect the quality of processed potatoes.

Minnesota Farm and Home Science, the popular research report of the Experiment Station, has become a quarterly publication. There have been two special issues. The first, in 1963, addressed itself to the problem of agricultural chemicals and its implications to the general economy, the welfare of plants and animals, and wise use of these chemicals. The 1964 special issue devotes attention to several phases of Minnesota's water resources, an important factor in the State's economy.

This past year has seen a self-analysis within the Institute of Agriculture and the Agricultural Experiment Station. This study has been accomplished by involving representative groups of staff in reviewing the scope and role of the Institute through its three functional units—research, resident instruction, and extension. In May 1964 a research seminar was addressed to questions of direction over the next ten years. Recognizing some of the difficulties in obtaining adequate funds as well as the need to constantly adjust the program makes it necessary for the departments and branch stations to look at their present programs and to project their direction for the next ten years. The general attitude of the staff has been one of strong involvement in the destiny of the research program and, consequently, a strong desire to select our most competent areas and to build strength with strength. We recognize that we cannot be great in all disciplines and that we should not attempt to have a fully developed program in those areas in which other states have greater competence.

It appears that we are entering an era of closer cooperation with neighboring states. We have had excellent cooperation over the years with North Dakota in respect to soils, plant breeding, agronomy, plant pathology, and entomology research, but we have not enjoyed the same degree of cooperation with Wisconsin. In recent months efforts have been made to strengthen this

relationship with Wisconsin; hopefully, these efforts will lead to better utilization of funds made available to both states.

Publications of the staff constitute a measure of productivity. In 1962-63 there were 209 scientific and 287 miscellaneous journal series papers and nine bulletins. There were about 180,000 pieces of research reports of various types including bulletins, *Farm and Home Science*, and the report series. Increased publication is being especially encouraged so that the results of our research can be brought to our clientele at the earliest possible time.

Agricultural Extension Service

The Agricultural Extension Service, as the continuing education arm of the Institute of Agriculture, represents the University in educational programs addressed to the total social and economic needs of Minnesota communities. It brings to local people the educational resources of the University and the U. S. Department of Agriculture. It serves as an educational catalyst in guiding the self-study efforts of local organizations.

The philosophy of the Agricultural Extension Service is that people of Minnesota must have, continually available, opportunities to extend and to continue their education. Extension recognizes that the changing conditions of recent decades have brought new and different problems of adjustment, which are accompanied by changes in educational needs.

Fundamentally, Extension education involves working with individuals, families, business firms, interested groups, and community groups in appraising their environment. It aids local people in identifying goals, needs, and alternative courses of action, and formulates educational programs to facilitate achieving these goals.

Minnesota's Changing Society and Economy—Underlying the trends in Agricultural Extension education are the vast changes of recent decades throughout Minnesota. Minnesota's population now is 62 per cent urban. This trend was accelerated in the 1950's when 49 counties decreased in population. Much of the population loss was among people in farming. In the last 20 years, the number of farms in Minnesota dropped by over a fourth, and size of farms increased by a fourth.

In agriculture, forestry, and home economics, the changes have been especially dramatic. In agriculture, technological advances have fostered replacement of labor with capital. The farmer now produces enough for himself and nearly 30 others. And adjustments on farms and adjustments in other rural industries have repercussions that reach through other segments of society. With changes to larger, more efficient farming units, people and firms in small towns have experienced increasing concern. Adjustment is placing stress on institutions and social organizations serving the community. Some small towns, having ceased to perform their traditional economic functions for surrounding farms, face obsolescence. They are often unable to support needed public services. Lower incomes and declining property values shrink the tax base necessary for financing community improvements. Rural communities are undergoing changes similar to the farm enterprise itself. As the sheer subsistence farm gives way to the highly mechanized commercial farm, the simple service community gives way to the more complex service community of the future. This transition reflects a new way of producing and living in rural areas.

Implications for Adult Education—It would seem that the apparent adjustments to economic and social change will necessarily increase the need for public planning. Such planning will occur at all levels of government and in social and economic institutions. Already, the planning organization has become a familiar group at local, regional, and state levels. Furthermore, membership in planning groups includes a broader segment of the population. And as people gain more education and more concern about community-wide problems, they may be expected to accept more responsibility for planning.

Participation in such study and planning groups will require a well-informed citizenry whose members are ever more familiar with social, economic, and technological aspects of their environment. The Land-Grant Uni-

versity recognizes that education is a continuing process, and that formal education is not adequate to carry a person through his lifetime. The Land-Grant University is uniquely equipped to fulfill this role of adult education for a better informed citizenry, and the Agricultural Extension Service of the Institute of Agriculture has a special responsibility for developing such educational programs around the state.

Community Resource Development—The educational program of the Agricultural Extension Service rests upon (a) a staff of state specialists, representing an array of disciplines, who have contact with resources around the University, (b) a county extension staff in close contact with clientele, and (c) a system of cooperation with local study groups for Community Resource Development, often called Rural Areas Development (RAD) organizations.

In many counties RAD organizations are becoming the focal point for local extension program planning. These groups start with the assumption that effective development requires an analysis of a community in these terms: 1) where it is, 2) where it has been, 3) where it is heading, 4) where it would like to go, and 5) what it must do to get there. A study that addresses itself to these questions is termed an Overall Social and Economic Development Plan (OSED) and is written by local people, in cooperation with the local extension agents and, frequently, with some state specialist aid. The project plans that may stem from these OSED's are up to the community. For educational support, they turn to the University through extension for resources.

More than 3,000 persons are involved directly in these organizations as RAD committee members. More than 20 counties completed OSED reports in the biennium, and another 17 have reports in process.

The changing educational needs referred to above imply shifts in focus and format of specific educational programs. A major activity of county staff personnel, for example, has been in organizational activity—often in situations where agents have had relatively little past experience. While such activity broadens the scope of extension, it may also put severe strains on individuals unaccustomed to working with other than traditional groups. The entrance of extension into community resource development education has not been a matter of simply adding a new program. Instead, it has meant accepting tremendous responsibilities for educational involvement in a social action process. It casts extension in the role of a social innovator, a change which requires that the educational efforts of extension anticipate a wide array of impending social changes.

Extension efforts in community resource development are restricted by the lack of extensive information on the nature of problems to which rural communities must adjust, and the alternatives available to them. Community organizations developing OSED's need current and valid data as benchmarks for developing concrete recommendations for area programs of action. Extension is currently limited in the amount of staff resources available for developing materials for projections of social and technological changes.

Extension Programs—Agricultural Extension is organized in several program planning committees at the state level. These areas include Community and Public Affairs, Agricultural Production, Management and Natural Resource Use, Marketing and Utilization, Home Economics, and Youth Programs.

A number of seminars, treating social and economic problems in depth, were held around the state during the year and were attended by more than 4,000 persons. One, for example, was held at the Southern School and Experiment Station at Waseca and dealt with problems of taxation in rural areas of Minnesota. This seminar involved authorities from extension, St. Paul and Minneapolis Campus departments, other colleges and universities, and public agencies. The seminar was held one day per week over a five week period.

Such education in depth illustrates a principle being followed through more and more of agricultural extension activities. In home economics extension, for example, the basic procedure involves training local leaders who can then present subject matter in local groups. This procedure is used in developing awareness of community needs such as in health education and

aging, in developing competence in homemaking skills, and in consumer education.

A special series of training conferences were held for some 700 young farm couples, to improve their abilities to prepare and analyze family financial plans, to apply management principles and techniques to financial business. This training was done through a series of five all-day meetings.

Educational efforts in recreation and tourism have, during the biennium, been expanding rapidly. Again, using the conference and seminar approach, hundreds of resort operators attended sessions organized through Agricultural Extension, bringing to them information on business planning and management, financing, development of recreational facilities, and improving their communications methods.

Another sequential educational effort in 1963 involved five different programs, including about 250 swine producers in 17 counties. Each sequence involved three to five all-day meetings and covered such topics as basic nutrition; management, breeding, and selection; physiology; health problems; economic trends; and reproduction and breeding management.

Twelve meetings for 800 retail dealers in seed, fertilizer, and agricultural chemicals were held around the state to provide up-to-date information on technological developments in agriculture. These dealers in turn extend authoritative information to their customers. The meetings concentrated on fundamental information relating to crop varieties, weed control, insects and insect control, crop diseases, and soil fertility.

A variety of extension activities was directed toward improving understanding of changes in market conditions. One project was a special publication on agricultural bargaining power, which put the farmers' interest in bargaining in historical perspective and indicated the nature of economic and sociological factors which might affect the outcome of certain bargaining efforts. Analyses of problems and potentials in new markets were presented at a number of county egg institutes and other poultry meetings held on county, regional, and state levels. To improve the management know-how of county grain elevator businessmen, short courses on cost of credit, credit management, advertising, and related topics were held for some 61 elevator managers. Similar sessions were arranged on futures trading in grains.

The dairy herd improvement program continued to show the benefits of record keeping and improved management practices in general. The number of cattle on test has increased to nearly 6,000 herds, containing more than 170,000 cows. Cows enrolled in the program produced about 3,000 pounds more milk annually, compared with the average for all cows in the state in 1962. Records for more than 100,000 of these cows are now processed by electronic computers. DHIA members have increased the net earning levels of their cows to an annual labor return of \$143, or nearly triple the state average. Minnesota dairymen annually invest a million dollars for this service.

Enrollment in extension youth programs in Minnesota in 1963 reached 54,617 boys and girls, whose activities were guided by 12,119 adult leaders. The overall objective of the extension youth program is to provide young people with educational experiences which will lead to their assumption of mature citizenship responsibilities in a changing society. Several new projects were added to broaden the educational program for youth. Among these is a project in career exploration.

Another expanding area of extension educational activity is in providing information to consumers. One program developed on a pilot basis during the biennium was a consumer protection forum to make people aware of problems which consumers face, to inform them of some private and public agencies which provide consumer protection, to motivate people to seek more consumer education, and to help people understand their role as consumers in the U. S. economy.

Total Extension Audiences—Total Extension audiences may be measured several ways. Through seminars, conferences, meetings, demonstrations, and requests for educational assistance, Agricultural Extension made more than two million individual contacts during each of the years of this biennium. A total of 54,617 youths were enrolled in 4-H activity, which also involved

12,119 adult leaders and 10,819 junior leaders. More than 700,000 publications were distributed through Extension. Mass media contacts are impossible to measure, but are reflected by the fact that in any given week, extension materials are printed by newspapers whose gross circulation is over a third of a million and are used by broadcast media with audiences in the hundreds of thousands.

College of Agriculture, Forestry and Home Economics

The "climate" of a campus is determined by many factors. Faculty members of long tenure and student leaders alike note that the past biennium was one of vitality and movement on the St. Paul Campus. A Student Center Board of Governors interested in providing stimulating and rewarding programs through the Student Center, a dynamic director of the St. Paul Campus Chorus who has created new interest in music in the life of the student, provocative retreats, faculty review of teaching programs, a general interest in more adequate interpretation of the St. Paul Campus program to the public—all have contributed to the atmosphere within which students and staff work.

Within the College of Agriculture, Forestry, and Home Economics, the impact of the change in admission threshold from the 25th to the 40th percentile on high school rank in the fall quarter of 1963 is expressed through reduced dropout and fewer failures among new freshmen. It has permitted the Department of Rhetoric to make significant adjustments in its handling of the Freshman Communications program. The College faculty continues to encourage more adequate preparation of prospective students, in order to make the student's period in residence more productive. The faculty now recommends that all students entering in Agriculture or Forestry complete three units in mathematics (algebra, plane geometry, higher algebra, or equivalent) prior to entrance, effective for the academic year 1966-67.

Enrollment continues to grow, with interest in agriculture predominant in the increase of the last year of the biennium. The supply of graduates in agriculture is not adequate to the demands of industry and public service institutions. Several approaches are being used to alert the urban student to rewarding careers in agriculture or forestry, though he may not have identified himself with these areas. Rural youths are encouraged through correspondence and through formal and informal programs to do more effective career planning, in the hope that more qualified young people will consider a college program following high school graduation.

Changes in curriculum and course offerings of the College are in prospect. The School of Home Economics is making a major reduction in the "core" requirements common to all students in the school. This permits somewhat greater freedom for students to pursue areas of special interest and strengthens the program in basic science and in its general education aspects. After a one-year study, the Curriculum Review Committee in Agriculture has made a preliminary report to the faculty. The report proposes a new curriculum structure to lessen the so-called "departmental" influence at the undergraduate level that would encourage interdepartmental cooperation in course planning and student advising and that would place more responsibility for programming in the hands of curriculum or program committees and individual faculty advisers. Departmental discussion of the new proposals is lively, and the staff indicates by their interest and participation their readiness to make changes that will keep the program of the College effective and competitive.

Much staff interest has been focused upon the University's role in assisting others of the scientific community to keep abreast of new developments. Approval for an Academic Year Institute for High School Teachers of Biology for 1964-65, a Summer Institute (summer 1964) in Genetics for High School Teachers of Biology, and an in-service program to operate during the coming year for biology teachers within commuting distance—all grew out of the work of a steering committee on National Science Foundation programs. These programs are in addition to earlier and continuing programs in radiation biology and genetics.

The placement program of the College of Agriculture, Forestry, and Home Economics continues to yield rich dividends to the students. During the 1963-64 academic year some 1,500 firms and agencies were in active correspondence with the placement office, and the schedule of on-campus placement interviews included 100 firms or agencies and 1,500 student contacts. Not only is the range and volume of contacts increasing, but, equally important, the quality of positions available to students of the College constantly rises. The work of the placement office has influenced the Curriculum Review Committees in all areas and is a significant force in program evaluation.

Of special interest is the initiation of an intensive survey of local employers with respect to the placement of graduates in Home Economics. New markets are being uncovered, and a new awareness of this student resource is being aroused in the business community.

Changes also occur or are forecast for the outlying Schools of Agriculture. In November 1963 the Bureau of Field Studies and Surveys published *From Retrospect to Prospect*, its report on the Northwest School of Agriculture and encouraged the development of a Collegiate Technical Institute at the Crookston Station. Planning committees are at work on this challenge.

A promising eight-week short course at Morris, "Principles of Successful Farm Management," was scheduled and completed in January and February, 1964. The 25 prospective farm operators who completed this program strongly encourage its continuance.

At the North Central School of Agriculture (Grand Rapids), instruction was limited to the junior and senior classes, with only a senior class (the last class) to return for 1964-65. The Area Vocational School sponsored by School District 318 (Grand Rapids) got off to a strong start. This program of cooperative effort is much in accord with the recommendations of the Grand Rapids Study Committee of 1961.

The ground breaking for a new 100-student dormitory addition at the Southern School of Agriculture suggests the continued student interest in this program. The dormitory is designed for multiple use, will serve well the existing program, and will lend itself to student populations of different types, should program changes in the years ahead make this a necessity.

Agricultural Short Courses

During the biennium 166 short courses, ranging in length from one day to eight weeks and with a total enrollment of more than 32,000 persons, were conducted. Eighty-six of the short courses were held on the St. Paul campus; 80 were presented at branch experiment stations and other locations around the State. The average length of the short courses was just over three days and the average attendance was almost 200. A broad spectrum of topics and activities, ranging from tax problems to milk marketing and from beekeeping to youth leadership, was covered.

The trend in the biennium has been for a greater number of short courses, larger attendance, larger and more intensive short courses, and more courses being held at regional locations in the State—particularly at the branch experiment stations. The 4-day Property Tax Short Course was offered at 17 different locations during the biennium, with an enrollment of over 1,267 persons.

The department also (1) planned and administered a wide variety of educational programs for 472 students and visitors from 92 foreign countries, (2) planned and conducted 603 educational tours on and off campus for 25,931 persons, and (3) served as a conference coordinating center for the St. Paul Campus.

An extensive study of the department was conducted during the biennium in order to identify more closely its role and responsibilities for the future. The recommendations of the study committee have been incorporated into departmental planning.

During the past two years there has been a continually increasing interest in short-term educational programs. This interest, coupled with a definite increased need for education throughout life, has emphasized the role of a

unit such as the Department of Agricultural Short Courses and has presented the challenge which such units must meet in the years ahead.

Forestry Research

Minnesota's 19 million acres of forest land represent about two-fifths of the state's land area. The wood products from this land generated in excess of \$450 million in income within the state in 1963. Research, despite the magnitude of this figure, portends a great potential for expansion of forest products industries in Minnesota.

The Minnesota School of Forestry, one of the first in the United States, has been a pioneer in forestry research. The School's research program is divided into four areas: (1) forest production research, involving all phases of nursery practice, forest planting, tree improvement, stand improvement, forest inventory and administration, and timber harvests; (2) forest economics research, concerning the analysis of resource allocation and product distribution problems from the forests to the consumer and also forestry program evaluation within the context of contemporary economic theory; (3) forest products research, concerning the primary manufacture, processing, and marketing of forest products, and also including research in the remanufacture of lumber, veneer, plywood, and fiber board into the many useful articles of commerce; and concerning the design and fabrication of wood components for commercial and residential building construction; and (4) forestry-related research, dealing with such items as forest production, watershed management, shelterbelts, erosion control, and wildlife.

The availability of new federal funds, under the provisions of the McIntire-Stennis Act for Cooperative Forestry Research, has added impetus to the forestry research program: new projects in outdoor recreation, aerial photogrammetry, and strength of glued wood products have been undertaken. Much research is accomplished through graduate students; the School's current enrollment of fifty-three exceeds all previous levels.

Home Economics Research

Recognizing the increased body of research concerning the family as well as the growing need for professional workers with the knowledge and skills of home economists, two new undergraduate curriculums, Family Economics and Family Social Science, have been added by the School of Home Economics. The Household Equipment curriculum was also established, with one option for the practitioner in business and the other for the student of strong scientific bent interested in research.

Nutrition and Food Service Management Division—Nutritional research employing bacteria and rats as experimental animals will be expanded in an effort to obtain more low-cost basic nutritional knowledge prior to experimentation at higher cost with human subjects. Amino acid interrelationships will be studied in bacteria first, and significant interrelationships will be further studied in the rat. Research on congenital abnormalities induced in rats by folic acid deficiency will be continued, with expansion into radioisotope work for studying relationships to nucleic acid synthesis. Human subjects will continue to be used in selected experiments on dietary protein needs, and effect of dietary fat on the protein requirement may also be studied. Research of the dietary survey type will be continued also, but with increased use of statistical evaluation in experimental design. It is anticipated that greater outside support, particularly from federal sources, might be obtained for much of this research, and such requests are planned.

Foods Division—Present plans are to pursue studies in two areas: (a) identification of components in meat and vegetables that are responsible for flavor, color, and texture changes during handling, storing, and processing in the home; and (b) methodology development for the study of food consumption behavior of families and of individuals within families. Little fundamental knowledge is now available in either of these areas.

Household Equipment Division—Research plans are (a) to resume experimental work on effective space utilization in kitchens, (b) to apply the newly developed test method for determining effectiveness of home dishwashers to evaluation of parameters such as extra pre-rinses and extra washes, (c) to develop consumer guidelines on effective use of kitchen space and use factors related to dishwashers.

Textiles and Clothing Division—The textile scientists at both Minnesota and South Dakota Agricultural Experiment Stations will work closely with Extension leaders in areas where mineralized waters present special problems in laundering. Cooperative textile research in the North Central Region will be initiated by Minnesota to determine how fiber, yarn, and fabric break down when subject to certain stress and strain from abrasive wear.

Home Management and Family Relations Division—Research in family decision-making is to take three directions: (a) family problem-solving, (b) family decision-making after divorce (discussions on this area are being held with the School of Law for collaborative research), and (c) family mobility and the transmission of values as causative factors in poverty.

Related Art Division—Research in related art will be directed toward (a) home interior design to be carried on in cooperation with the Division of Home Management and Family Relations—this will involve the use of a home environmental research facility in which space, color, arrangement, and furnishings will be studied under experimentally controlled conditions; (b) regional and state historical studies of costume, interiors, and the decorative arts; and (c) creative work in textile design.—SHERWOOD O. BERG, dean

AIR SCIENCE DEPARTMENT

The Air Force ROTC program enrollment since the last biennial report is as follows:

Academic Year	Basic Course		Advanced Course	
	1st Year	2nd Year	3rd Year	4th Year
1962-63	251	82	41	26
1963-64	239	90	30	35

The Air Force ROTC has had an increase in the number of cadets enrolled in the Advanced Course. This increase is a result of an Air Force decision to increase the number of officers to be commissioned in the Air Force ROTC program. Consequently, this detachment has had more spaces available to it for Advanced Course students. During the period, we have continually tried to broaden our selection base by increasing enrollment in the basic course. In spite of stepped-up efforts in this regard, we have been only moderately successful.

During this period our Arnold Air Society Squadron was ranked third nationally, and our feminine auxiliary, Angel Flight, ranked first in the country for its contributions to the over all program of the Arnold Air Society.

The revised Air Force ROTC program (OEP) is awaiting congressional approval before it can be put into effect. Meanwhile, however, plans to implement the program have progressed. The Air Force ROTC curriculum has been completely revised for the proposed new program. The first phase of this new curriculum will be taught to our third year students beginning September, 1964. The second phase will be introduced for our fourth year students the following year.—F. D. STOCKDALE, Major, USAF

SCHOOL OF BUSINESS ADMINISTRATION

The biennium 1962-64 saw a great many changes in the School of Business Administration. During this period, the School was moved to the new West Bank building. After a period of adjustment, there is general approval of the new quarters. The biennium also brought new programs, new faculty, and

substantial changes in the graduate curriculum. Also, the biennium brought a host of problems which are part of the growing and developing pains of the School.

The Teaching Program—In the biennium 1960-62, the undergraduate enrollment showed signs of reversing a downward trend of several years' standing. In the biennium 1962-64, the trend was definitely upward. The fall enrollment of 1962 was 550, the fall enrollment of 1963 was 630, and it is anticipated that the fall enrollment of 1964 will be over 700. In addition to the regular enrollment, the School started keeping an accurate count during the biennium of the students in the Extension Division who had been admitted to the School of Business Administration (these students have completed at least 90 hours of University work). The numbers appear to be growing; over 300 have been identified during the year 1963.

Starting with the fall of 1962, tighter standards for admission have been enforced. As a result, attrition has been dropping off markedly. The number of applications seems to be increasing with the rising standards, but the percentage of rejections is also rising.

The biennium saw no important changes in the undergraduate curriculum.

In the Graduate School of Business Administration, which administers the M.B.A., M.S., and Ph.D. programs, the enrollment also appears to be rising. A far more active Ph.D. program is taking shape. Financial assistance aids are building up, and it is expected that the School will turn out more Ph.D.'s than in previous years. The daytime graduate programs also appear to be growing. For the first time, a major attempt has been made to separate graduate from undergraduate students in a majority of the courses. The American Association of Collegiate Schools of Business—the accrediting agency in the field of business administration—insists that a substantial number of courses in the curriculum be limited to graduate students only. Since it made these changes, the School was fully accredited for the Master's Degree.

The evening M.B.A. program poses a special opportunity and a separate set of problems. During the biennium, the backlog of students waiting to enter has been worked off. In the fall of 1960, approximately 100 students could not be accommodated. By the end of June of 1963, all who wished were accommodated, although a number found change in their plans and had to drop out. The enrollment has stayed constantly at 175. The evening M.B.A. program requires approximately 40 sections of work per year. This work is a considerable drain on faculty resources. Also, the evening program presents problems academically because of fatigue, lack of available time for students to work in the library, and the occasional uncertain schedules of students who often have major responsibilities in their respective company organizations.

Substantial graduate curriculum changes were made during the biennium. After a two-year study, the Curriculum Committee reported to the faculty in the fall of 1962. This report started a period of debate and faculty discussions which lasted approximately a school year. In the spring of 1963 a substantial modification of curriculum was adopted which is considered an interim step because a number of course changes have to take place to make the change fully effective. In addition to the curriculum change, the faculty voted to require a satisfactory score on the admissions test for graduate work in business administration developed by the Educational Testing Service. Minnesota was one of the few universities in the country not requiring the test up to this time.

The teaching program has been substantially enriched both on the undergraduate and graduate level by the introduction of "management games" into a number of courses. A complete management simulation was developed in 1962-63 by a graduate seminar. This simulation has been used widely by both undergraduates and graduates as a part of teaching the business policy course. Because the School has a computer which it can devote to this purpose, much more has been done in this field than in most business schools across the country.

Research Programs—The resources devoted to research are still a very minor part of the total resources available in the School. Most of the resources go to the teaching program. There is recognition that research must increase substantially, and it is expected that greater and greater commitments for research funds will have to be made in the future.

During the biennium, there was significant development in research. One of the most significant was the opening up of work in experimental method as it relates to business problems. The development of a faculty body calling itself the Center for Experimental Studies in Business has proved to be a useful organization for focusing attention on significant problems of research methodology. The Center has attracted research grants from the Hill Family Foundation and from other sources as well as regular funds from the legislative special appropriation on business and economic research.

During the biennium, there have been a number of research projects which have been completed and are now in publication form. The series of projects sponsored by the Small Business Administration, with assistance from the legislative special, was completed by June 30, 1963. This series of monographs has proved to be an extremely useful addition to the literature of small business. Other studies on franchising, the St. Lawrence Seaway, implementing the marketing concept, and "How To Make Your Savings Work for You" have proved to be quite popular and are in steady demand.

Individual faculty research projects were small in number compared to some other units of the University, but there are promising signs that the number is increasing.

The Industrial Relations Center is principally a research organization. The Center staff has been engaged in long-range research programs involving management development programs, managerial values, labor disputes and their settlement, and other studies of this kind.

Service Programs—During the biennium, the School, in cooperation with the Minneapolis Chamber of Commerce, engaged in a series of programs designed to aid and assist management education. The executive processes seminar, consisting of five daily sessions, proved to be most popular, as did seminars on communications and human relations. A seminar was also conducted on eight aspects of small business management. These programs along with many additional ones at the School have brought favorable credit upon the School and the University.

In November of 1963, shortly after the completion of the new building, an open house was held for approximately 300 business leaders of the community. Dean George Baker of Harvard University's School of Business Administration was the principal speaker. This program has led to greater interest on the part of the business community in the work of the School and to greater support.

Organization—During the biennium, the principal change in organization was the transfer of the Department of Economics from the School to the restructured College of Liberal Arts. This transfer brought about a considerable change in the organization of the School. The undergraduate faculty was re-organized so as to parallel the graduate faculty in business. Other changes in organization were as follows:

1. The establishment of the Computer Center of the School of Business Administration on a regular basis with a director and staff;
2. The creation of a management studies program to act as an effective bridge between the School and the business community; and
3. The institution of a program in international business. The latter was instituted in connection with the University's over-all emphasis on international programs. Until resources are forthcoming from the Ford Foundation or other places, this program is held in abeyance in the School.

Needs of the School—The greatest need for the School is for an increase in number of faculty. Class sizes have been climbing both at the undergraduate and graduate level. The School's programs are expanding, and more demands

are placed upon the faculty than in the past years. It is hard to make adequate comparisons because situations are different at different schools. A check of the Big Ten business schools revealed that Minnesota had the smallest faculty of all but the State University of Iowa. All of these schools are different sizes, but few of them are actually larger than Minnesota. This scarcity of faculty has been well known here for a number of years.

A second great need is for adequate and steady research support. This School is one of the few business schools at state universities that does not have an adequate Bureau of Business Research. The state government and local governments collect very few business and economic statistics, and there is no central place for them to be brought together. A Bureau of Business Research would be an adequate mechanism for accomplishing this task.

A third need is for better organization mechanisms for bridging the gap between the School and the business community. These can develop in time, providing there is receptivity on both sides.

The School has considerable potential. Its location in the heart of a fast-growing metropolitan area with a good business and commercial base is most significant. That it has made an impact upon this community and upon this University is undeniable. On the other hand, its potential in all three areas—teaching, research, and service—is much greater than what has been realized in the past. It is hoped that the future biennium may show increasing activities and service.

—PAUL V. GRAMBSCH, *dean*

DEPARTMENT OF INDUSTRIAL RELATIONS

The Department of Industrial Relations, established in 1961, is responsible for curricula and degrees in industrial relations. The Industrial Relations Center, reporting to the Department of Industrial Relations, serves primarily as a research and service agency. H. G. Heneman, Jr. has served as Director and G. W. England as Assistant Director during the biennium. The Labor Education Program, headed by Prof. John J. Flagler since 1963, reports to the Director of the Industrial Relations Center. The state-wide Advisory Council, including the all-university faculty committee, continues as a valuable advisory group for the Industrial Relations Center.

The Department of Industrial Relations faculty have focused their efforts during the biennium on curricular planning and development for the Ph.D. program in Industrial Relations, which began early in 1964. The subfields of Industrial Relations, for curricular purposes, are Scope and Systems of Industrial Relations, Compensation Theory and Administration, Manpower Resources and Allocation, Staffing, Training and Development, Organization Theory and Administration, and Collective Bargaining. The program recognizes that the problems arising in industrial relations are diverse and require that the specialized knowledges and approaches of other disciplines be integrated toward understanding and solution of these problems.

During the academic year 1962-63, 58 graduate students were majoring in industrial relations; in 1963-64, there were 67 graduate students. During the biennium, 14 students earned Master's degrees and 3 earned Ph.D. degrees.

Although no undergraduate specialization in industrial relations is offered, a number of courses in industrial relations are offered at the undergraduate level. These courses may be utilized in programs for Bachelor's degrees in business, engineering and liberal arts. For students who are employed during day school hours, evening courses are offered through the General Extension Division. A Certificate in Industrial Relations is granted to students completing 45 credits of prescribed course work. Three students received the certificate in 1962-64.

The Industrial Relations Center research program during the biennium has continued to center around six major research areas or laboratories. Research findings have been reported in 17 articles in professional journals, four bulletins, one special release, and one mimeographed release.

June 30, 1964 marked completion of the fifth year of a five year research project on employee work adjustment. A new five year grant of \$350,000

has been awarded the Center by the Vocational Rehabilitation Administration for continued work adjustment research.

The conference program of the IRC has brought together practitioners in the field for open discussion with nationally-known authorities—teachers, consultants, practitioners, and public administrators. A conference on Employee-Management Relations was jointly sponsored by the IRC and the United States Civil Service Commission. A seminar on the Social Science of Organizations was jointly sponsored by the IRC and the Graduate School Research Center. In addition to the direct sponsorship of conferences by IRC, staff members have participated in planning and directing conferences held by professional societies. Members of the IRC staff presented papers or served as members of the faculty at 141 meetings or conferences.

The center welcomed 59 distinguished visitors during the biennium from the U. S. A., Ireland, Taiwan, The Republic of South Africa, Japan, and Venezuela.

The IRC Reference Room received over 780 requests for extensive reference assistance from off-campus representatives of companies, unions, government agencies, and the general public throughout the world, in addition to the many student and staff requests received daily.

The IRC has continued to assume primary responsibility for the University's Labor Education Program. Labor education needs are affected by the continuing emergence of new leadership, which faces problems of increasing complexity, and by the constantly rising level of scholastic achievement represented in the labor movement.

These parallel developments mean that more ambitious programs of study are not only possible but urgently necessary to better equip the union leader to meet his responsibilities as a representative of his membership and as a citizen of the state. In the past two years, the labor education program has been broadened in scope and extended to new groups and geographical areas. The Union Academy, a two year certificate program in liberal studies, was initiated in 1963 and has an enrollment of 120 union leaders. In addition, several annual residential programs have been started for various international unions with membership concentrations in the state, and a systematic project for increasing out-state programs has been developed. As a result of these new approaches, the 1963-64 labor education service grew to 36 programs, providing 720 classroom hours of instruction to 1370 individuals.

—H. G. HENEMAN, JR., *director*

DEPARTMENT OF CONCERTS AND LECTURES

The Department of Concerts and Lectures has served a threefold function in the University and the state throughout the past two years, with an increase of both services and concepts. Its role in presentation has been expanded with more concerts and more lectures and symposia in an ever-widening scope. The role of the department in creativity is emerging as ever more important, with new musical artists, new composers' works, and new presentations taking an increasingly important part. A carefully noted increase in the interests of students both on the three University campuses and in the high schools throughout the state has been a source of great satisfaction to the members of the department and has called upon the department for more services to those groups and new ideas for presentation and cooperation, as budgets become larger and income increasingly important, while the number of students increases.

Well over two million people annually view and participate in the presentations by the several divisions of the department. The demands of the cultural center of the Upper Midwest are still met by the services of the department. More and more services and consultations are requested of the department. The value of these services can best be judged by the increase in requests for just such services, as more people in Minnesota and the surrounding states become aware of their availability.

University Artists Course—The 44th and 45th Seasons of the University Artists Course brought an average of more than 4,000 people to Northrop

Auditorium for each of the presentations. The two seasons were planned to include a wide number and variety of presentations so that the continued interest remained high, and a proper integration with University activities was maintained. Eighteen presentations were offered in 1962-63, and seventeen in 1963-64.

Attendance at each concert of the Masterpiece Series in 1962-63 did not go below 4,600 at any time during the season of 7 regular concerts and a bonus concert. The Celebrity Series offerings were somewhat disappointing, with the exception of the presentation of the San Francisco Ballet, which was sold out far in advance of the concert date.

The increasing number of concerts available throughout the area and the number of regular opportunities in the expanding cultural atmosphere of Minnesota made it possible for the two Series on the University Artists Course to turn to different ideas and to offer both more entertainment and more challenges to the University community and the people of the area in the 1963-64 season. The Celebrity Series was entirely sold out, in each case, long in advance of the concert date. At the same time the unusual offerings presented on the Masterpiece Series were sold completely, while the regular and superior concert offerings provided highly satisfied audiences.

The increasing fees demanded by famous artists and the increase generally in the cost of concert presentations left the Artists Course in an undesirable financial position at the end of 1962-63. By meeting these costs and the artistic challenges with new ideas, the Department improved the financial position of the Artists Course by the end of 1964. Assistance in relief of the services provided to University functions, by the University administration, was also a considerable factor. Although that burden was still heavy upon the Artists Course, it was a burden that was accepted with satisfaction as the Artists Course accepts its role in the University Community.

In creativity the presentation of new artists continued. Agustin Anievas, winner of the First Dmitri Mitropoulos Award for pianists, was presented in a bonus concert to subscribers in 1963. In 1964, in cooperation with the Ford Foundation. Betty Allen, a new and splendid vocalist, sang "Praises and Prayers" and other new works in a recital in 1964. The new work was on its premier tour and had been specially prepared by Virgil Thomson. Through the department other new works are being commissioned. A new religious work is scheduled for 1965.

The Artists Course participated in more student presentations for the annual Greek Week, in scholarship fund raising; and it generally lent its services to student groups on all campuses of the University. These services were provided both with locally produced and professionally produced presentations. The Annual Barbershoppers Parade of Quartets was presented each of the past two years. The total contribution for 16 of these programs to the Variety Club Heart Hospital on the campus now totals \$72,002.94. Special concerts ranged from a play in the French Language in cooperation with the French Department of the University and the Alliance Francais de Twin Cities through folk music and jazz to extra ethnic offerings.

The current problem of illness and other reasons for cancellation of concerts plagued the department again during the biennium, but happy solutions were found in every case. When Sviatislav Richter was forced to cancel in April 1963, the Boston Symphony took his place, to the satisfaction of almost everyone in the audience. In 1964 Mischa Elman missed a concert because of a broken ankle, but it was possible to present Nathan Milstein in his place on the same date.

1962-63	
University Artists Course Presentations	
Masterpiece Series	Attendance
D'Oyly Carte Opera Co.	4,705
Goldovsky Opera	4,785
Richard Tucker	4,693
Isaac Stern	4,724
Phillippe Entremont	4,624
Anna Moffo	4,609
Boston Symphony	4,922
Total	33,042

1963-64	
University Artists Course Presentations	
Masterpiece Series	Attendance
Jean Madeira	3,005
Black Watch (Wms. Arena)	8,959
Stars of Bolshoi Ballet	4,814
David Bar-Ilan	2,983
George London	3,035
Grant Johannesen	3,133
Nathan Milstein	3,144
Total	29,073

1962-63		1963-64	
University Artists Course Presentations		University Artists Course Presentations	
Celebrity Series	Attendance	Celebrity Series	Attendance
Rapsodia Romina	2,828	Mantovani	4,922
Foo-Hsing Chinese Theatre	2,983	Norman Luboff Choir	4,922
Leonard Bernstein Gala	2,959	Van Cliburn	4,922
San Francisco Ballet	4,822	Masowsze Ballet	4,822
Total	13,592	Total	19,588
Special Concerts		Special Concerts	
D'Oyly Carte Opera Co.	3,274	L'Alloute (small area)	1,716
Miriam Makeba	2,049	New Christy Minstrels	4,922
Agustin Anievas	4,500	Betty Allen	4,000
Peter, Paul and Mary	4,922	Joan Baez	4,922
Don Shirley Trio (Coffman Union) ..	733	Stars of the Bolshoi	4,820
Parade of Quartets	4,290	Parade of Quartets	4,672
Total	19,768	Total	25,052
Grand Total	66,402	Grand Total	73,713
Receipts	\$150,106	Receipts	\$185,175

Metropolitan Opera Company—1964 was the celebration of the 20th Anniversary of the Spring Season of Metropolitan Opera in the Upper Midwest. It is considered the single most important concert and musical event of the season and attracts attendance from as far as 1,200 miles on a regular, annual basis. There are several unique conditions that surround its presentation by the University of Minnesota in Northrop Auditorium. This is the only university campus to which the opera comes each year. This is the only stop on the tour where interested people in more than 50 surrounding communities are organized into committees to help their fellow townsmen with the plans and details of the season. This is the last stop where the same local manager remains in the job after twenty years. And this may well be the smallest population area which has a full season of Metropolitan Opera each year.

In 1963 the season was expanded to a full six days with seven operas on the season. Prices were forced up, by increased fees and costs, to the prices that had been charged in 1960—that is, to \$12, \$10, \$7, and \$4 per seat. The longer season reduced the attendance per opera somewhat, but the actual loss, made up out of operating funds, was less than \$10,000.

In 1964 with prices remaining the same, the opera was forced to reduce its season here to five operas in four days because it played for two weeks at the New York World's Fair. The demand for seats in this second season of the new price scale was the largest in history. Never before were all operas on the season sold out completely in the mail orders which arrived on the first day. Every seat for all five operas was sold six weeks before the opening performance, and the clamor for tickets after that was the greatest in recorded history. The artistic success of the season, which incidentally was also a week later than usual in May, was unquestioned.

A 21st season of opera is planned. The number of operas is not determined as yet, but will be announced no later than November 1, 1964, by the New York company.

The opera is sponsored each year by the University, the Minnesota Orchestral Association, and the Upper Midwest committee of Guarantors and Sponsors. The committee of management includes members from seven states and three Canadian Provinces. The audience attendance from outside the metropolitan Twin Cities area reaches from 33% to a record 40% in 1964, thus bringing the services of the University and people throughout the state and the area together in an exceptionally successful musical event.

Special Cultural Projects Fund—The Special Cultural Projects Fund is created by the University share of profits from the Metropolitan Opera. The fund is dedicated to projects that are of special interest or value to the University community or of a wide general cultural nature that would not be undertaken without such a fund. In 1963-64 the fund did not exist, since the 1963 season of opera operated at a slight loss. In 1962-63 the fund provided underwriting for the annual Bach Festival, which is showing an ability to support itself after four years of this support. The fund was used to provide \$1,200 for a series of Kaffe Konzerts in Coffman Memorial Union to introduce

students to chamber music. The Kaffe Konzerts were jointly supported by the Coffman Memorial Union Board of Governors and the Recording Trust Fund directed by Local 73 of the American Federation of Musicians. \$2,000 was used to underwrite a book by Quaintance Eaton on local opera production. The fund also underwrote the annual "Introduction to the Lively Arts," a special cultural program for Orientation Week at the University. In 1964-65 the fund will again be used for these cultural purposes since the Opera season was once more profitable.

Summer Session Entertainment—Funds for the summer session programs offered each Tuesday and most Thursdays throughout the two terms of Summer Session at the University are provided from the recreation fee charged as part of tuition and administered by the Summer Session Office. This department does provide some financial support, and a great contribution is made to the costs of the orchestral programs by the Recording Trust Fund of the American Federation of Musicians through Local 73. This same support continued in 1963 for an exceptional series of concerts and lectures and general entertainment, adding to the reputation of the University as a cultural center.

In 1964 this series of Summer Concerts was expanded. The first of a projected series of admission concerts for summer was offered by the Andahazy Ballet on June 30, 1964. Others continued throughout the summer (into the next biennium). One of the highlights of 1964 was the appearance of Robert Goodloe, National Winner of the Metropolitan Opera Auditions. He was the first such winner from this region—the oldest such region in the country, celebrating its tenth anniversary in 1964.

Plans for the coming year are ambitious for both education and presentation of concerts now that Northrop Auditorium is air conditioned. The plan calls for a special Summer Session Faculty of all of the members of the Minneapolis Symphony (or as many as choose to participate) in a seven week summer festival. The services to music and music appreciation in the area and the nation will be monumental if the project is launched as planned in 1965 and if the outside support being sought is received. The plan calls for a self-supporting program in five years and will alter the structure of this summer session entertainment considerably with the projected presentation of a full music season throughout the summer, offering the summer session students and the people of Minnesota a unique summer concert season.

Convocations—Every Thursday at 11:30 a.m. during the regular academic year, there is a convocation in Northrop Auditorium. The range of interests is as broad as the interests of a great university. The object of the series is the enlightenment and entertainment of students, faculty, and staff. The public is kept informed and invited to attend these programs. The topics range widely, and attendance varies from 200 to an overflow audience. An advisory committee of students and faculty participates with the director of the department in the selection of the programs for these convocations. During the past two years the series has presented Senator Hubert Humphrey, Carl T. Rowan, Folk Singer Alan Lomax, Mayor Arthur Naftalin of Minneapolis, Representative Clark MacGregor, Sir Tyrone Guthrie, FBI Assistant Director William C. Sullivan, Arnold Toynbee, Lee Loevinger of the FCC, Author Vance Packard, and Perry Como. An increasing number of members of the University faculty are appearing at convocations, speaking generally on topics outside their teaching assignment but in areas in which they are expert.

In 1963-64 the Donald G. Paterson Memorial Lecture Series, which was funded by gifts to his memory from friends and designed by the special faculty committee and the Minnesota Chapter of the American Civil Liberties Union, was included in the series of convocations. The Series dealt with "Freedom" and brought to the stage of Northrop Auditorium Mortimer Adler, W. H. Auden, Eugene Rabinowitch, Sterling McMurrin, and Justice William O. Douglas.

Special Lectures and Conferences—The number of these special-interest lectures and scientific conferences continues to increase. This project is certainly one of the most important and least recognized services of the Department of Concerts and Lectures. Speakers are provided at the request of the

several colleges and schools of the University in cooperation with the department. Funds are provided by both this Special Lecture fund and the participating Department. Since the speakers are of special interest to special groups on the campus, audiences generally average fewer than 200 people, but the impact of these speakers in special areas is considered high. The general public is informed of the appearance and invited to attend.

The number of requests has been so great that a maximum participation by this department has been established, thus using the appropriated funds in the fairest way possible. Honorariums are generally so small that they barely cover the out-of-pocket expense of most lectures. Many are receiving some support from foundations to complete their tours or appearances.

This project should continue to expand, but to do so will need to receive increased financial support from this department, requiring an increased appropriation or funding in some other way. The increased number of graduate students will put even greater demands on this service. In 1962-63 seventy-nine of these lectures were offered through the cooperation with this department—and the number increased to 80 in 1963-64. Many more requests were made, but the funds were exhausted before all could be met.

Special Lecture Series—The Honeywell Engineers Lecture Series continued in each of the past two years. It is sponsored by Minneapolis Honeywell and the Institute of Technology under the direction of the Department of Concerts and Lectures. The funds are supplied by Minneapolis Honeywell.

The Minnesota Symposium is an annual event created by the Minnesota Students Association and supported by WCCO radio and television under the direction of the Department of Concerts and Lectures. In 1963 the first of the series was the Minnesota Symposium on "Ethics in Our Time." In February four nights were devoted to debates with two proponents, one on either side of four issues, debating, followed by seminars in other buildings on campus. The first Symposium brought Dr. Ralph E. Lapp and Dr. Harold Taylor to the campus for a Sunday night debate on "Ethics in Science and Education." The next night Russell Kirk and Carey McWilliams considered "Ethics in American Society," and on Tuesday Carl Winn and Otto F. Christenson debated "Ethics in Business and Labor," with the final night devoted to "Ethics in International Relations," between Nicolas Nyaradi and Edgar Snow. In 1964 the topic was "Great Issues in American Government." Again four days were devoted to it. On Sunday night of the series, Senator Wayne Morse and Governor Harold Stassen were the speakers. On Monday afternoon Governor George Wallace of Alabama was the speaker, and that evening James Kilpatrick and Roy Wilkins debated. Walter Heller and Allan Wallis were the speakers the third night, and on the fourth, Norman Thomas debated Robert Welch, who was snowed into Boston and appeared in voice and picture only on a special wire circuit from Boston. Audiences have been large. In 1964 nearly 20,000 people were involved in the series. Another series is in the planning stage for 1965.

University of Minnesota Program Service—This is a service to the schools, public, private and parochial, and colleges and community groups throughout the midwest. The service provides lectures, musical programs, theater, and general assembly programs. It has been a part of the General Extension Division administered through the Department of Concerts and Lectures. The 1962-64 Biennium was the last year of that administration: in the coming years it will be a direct and sole responsibility of the Department of Concerts and Lectures.

The financial position of the Program Service is considerably improved at the end of this biennium in comparison with previous years, despite the continuing problem of consolidations of schools and the increase of costs for presentation.

The number of programs has increased as follows:

	1961-62	1962-63	1963-64
Number of programs presented	2,718	2,907	2,864
Estimated Attendance	1,500,000 (each year)		
Total receipts	\$115,982	\$151,398	\$146,489

This increase is considered an indication of the increased support of the schools and sponsors throughout the area. The increase in programs, though slight, can be accounted for in many special instances by increased enrollments requiring more than one program in a school.

Problems of volume of transactions, to keep prices down in this cooperative effort with schools in the area, continue to plague this department. Fees for lecturers and performers are rising, but funds available to sponsors generally are not. Several economies have been effected in the past two years, and a period of General University support has helped the recovery of the Service. The number of student councils which now select programs for their schools is increasing; and although admirable from an educational viewpoint, this procedure necessitates repeat calls from the representatives of the service, thus raising costs.

The Program Service is faced with the difficult choice of maintaining and even raising the volume of program presentations or raising costs to maintain the improved financial position that has been recovered in the past biennium.

Drama Advisory Service—The Drama Advisory Service and Loan Play Library were originated and have been administered by the Department of Concerts and Lectures as a part of the General Extension Division. This will be the final report from this department since the Drama Advisory Service will become a direct part of General Extension on July 1, 1964.

The Loan Play Library, historically the oldest of the services in this division, has been increased to include an inventory of 8,500 volumes of plays and reference works on theater. In the past biennium it has been carefully reorganized into a proper library and is more efficiently serving the state. The annual circulation for 1963-64 was 7,658 volumes.

An increasing number of volumes of plays are becoming available at no cost or at much reduced cost from publishers. The unit cost reduction makes it possible to begin adding a much-welcomed service in recordings, tapes of radio broadcasts, and costume plates. A constant increase in the addition of these valuable research and production tools is planned as the interest in theater continues to expand.

The Service now shows a registry of 927 Minnesota high school teachers, who are thus enabled to use the library and consultative services of the division. The same service is available to communities seeking to create theaters, to schools planning to construct or renovate theaters, and to community theaters now in production. The Service is constantly available for subjects ranging from construction and lighting and management of theaters to consultation on selection and production of plays.

There are 27 community theaters now active in Minnesota. Many of them were organized with the assistance of this service, which still maintains a registry of qualified persons to work professionally in these theaters. There are workshops for community theater personnel. For both summer theaters around the state and community theaters, the service maintains an advisory capacity.

The Drama Advisory Service is the central office of the North Central Theater Association, made up of those interested in community, children's or educational theater.

The publication of the Drama Advisory Service, *The Curtain Line* has a circulation of 2,200, a 100% increase over the past biennium, which in turn itself had a 100% increase. The service has reissued its catalogue of *Long Plays* and added supplements to its *Catalogue of Short Plays*.

The Drama Advisory Service continues to assist the State High School League in managing the annual state One Act Play Festival. In 1963 the festival was held on the University campus with an attendance of 1,000. In 1964 a conflict of dates for facilities forced the movement of the festival to a high school auditorium, and only 559 attended. The office provided all services possible and has been requested to continue to do so. Throughout the year the service assists high school theaters with workshops in various regions of the state, and also serves as critic judge for many of the contests.

The summary of the increasing demands indicates that within a short time additional staff or part time personnel (if such is available) must be

added to the Service if it is to continue to provide the services requested of it, while maintaining the same high quality.

Facilities in Northrop Auditorium—The projected air conditioning of Northrop Auditorium was completed on schedule in September 1963. The cost of the project is being retired by a surcharge on all tickets over \$1.00 sold for events in the auditorium. The charge is 10¢ per ticket, no matter what its price, except for tickets for the Metropolitan Opera, which are surcharged 25¢. At the same time, while the auditorium was closed to use, a new stage light control board was installed. Together these very valuable additions to the auditorium have increased the quality of the productions, the comfort of both performers and audiences, and the prospects for additional use of the auditorium. A new summer series and an exceptional Festival of music and education are now planned for summer 1965. When the lights can be added to fully utilize the new control board, it will be possible to increase the scope of current productions and the value of student productions on the stage.

The total facilities of the stage and building are constantly being taxed to the limit by the increasing usage of the building during the regular year. The daily use of the stage for classes, the increasing number of rehearsals which must be scheduled on the stage, and the ever increasing number of public performances by everyone using the stage has taxed the schedule to its outer limit. The acoustical shell installed in 1961 has made rapid stage changes or adaptations impossible. Some adjustments to make the auditorium more readily available to classes have been made, and a new ramp which will bridge the orchestra pit, plus a new projection screen, will help some, but without considerable stage construction, little hope can be held for expanding the availability of the stage for use.

Special Needs

The Auditorium—The regrettable compromises in the use of Northrop Auditorium have become apparent as the stage facility itself has become inadequate. Its daily use as a classroom and rehearsal hall and performance stage do not allow for the important set changes or building required to meet the standards of excellence of a great university. Four specific improvements are needed:

- a. Since the installation of the steel shell, it is not feasible to build onto the back of the stage. Consideration of a stage lift, a universal tool in new auditoriums, would meet many of the problems. This would allow construction, storage, and stage sets to be made below stage level while the stage level itself would be in use. Such a plan would mean moving the University Band rooms and offices and some other rooms now in use but would make the building much more flexible for staging and scheduling.
- b. Additional lights and light facilities for the stage are needed, bringing those properties to the level of modern professional standards.
- c. Showers in the dressing rooms on each side of the stage are a pressing need and thirty-five years overdue.
- d. The second curtain, a gold one, is used for formal functions and for lectures on the stage. It was installed when the building was opened in 1929. Its great age has made it so fragile and rotten that it can be used only under special circumstances and with great care. To properly dress the stage it must be replaced, soon.

Increased Funds for Convocations, Special Lectures and Conferences—The fees, presentation costs of lecturers, and costs of various other presentations have increased, while the funds available for presentation have remained constant for nearly twenty years. The demands of increasing enrollment and the increasing excellence of education at the University place an ever-expanding demand on these services. At present every outside source of funds for supporting this program is explored and the success is gratifying, but

more funds will be needed, not alone to improve and increase their number but just to maintain the level of presentations.

Additional Staff—The Department of Concerts and Lectures is a unique source of information and assistance to campus groups and faculty and staff in many ways. Throughout the past biennium these services were called upon constantly and increasingly. To continue to serve the University on all of its campuses, and the state and region, additional staff must be provided soon to properly aid the University community and the State, while maintaining a standard of excellence and attention to detail of which the department is proud.

—JAMES S. LOMBARD, *director*

SCHOOL OF DENTISTRY

The 1962-64 biennium for the School of Dentistry was a period of some uncertainty and sadness and yet was marked with major achievements and progress in our educational, research, and service programs. Dean W. H. Crawford's deteriorating health made it virtually impossible for him to direct the affairs of the School in his vigorous and efficient manner of the past. The continuity of the programs and the many accomplishments which occurred in this time are a remarkable tribute to the capability, cohesiveness, and loyalty of the faculty.

In May 1963, Dean Crawford announced his retirement from the deanship pending the appointment of a successor. He continued as dean until November 22, 1963, when failing health made it necessary for him to relinquish his administrative responsibilities. He continued on the faculty as a professor of dental materials. Assistant Dean M. R. Holland served as acting dean from November 22, 1963 to June 30, 1964. During this time, he administered the school very effectively and with unusual dedication.

On July 1, Dr. E. M. Schaffer, who was a Clinical Professor and Acting Chairman of the Division of Periodontics, became dean of the School. Dean Schaffer addressed the faculty in June after his appointment was announced and declared that the teaching and research in the School must be centered around a program of preventive dentistry and that his goal for Minnesota was pre-eminence in the field of dental education and research among dental schools.

The academic and civil service personnel in the School were saddened by the death of Dean W. H. Crawford on February 20, 1964. Dr. Crawford, dean of our School of Dentistry for eighteen years, gave forty years of outstanding service to dental education. Many of the programs which he conceived and initiated at Minnesota will be in operation for years ahead.

Council on Dental Education—The Council on Dental Education of the American Dental Association sent accreditation committees to our School of Dentistry in October and November 1963 to evaluate our undergraduate dental program, dental hygiene program, and dental assisting program. The first two of these programs were examined previously in December 1960 and May 1961 respectively.

The undergraduate dental program was approved after the 1960 evaluation, but the Council made some specific recommendations for change in the teaching of some specific courses. The Council advised that a committee would return after two years to determine whether the recommendations had been implemented. The Council's report of its study last October was most complimentary and gratifying to the faculty. The Council continued full approval of the program and congratulated the School on the excellence of the undergraduate teaching activity and the progress being made.

The committee of the Council which evaluated our dental hygiene program in 1961 made a report that generally was laudatory. It was the judgment of the committee, however, that additional teaching help was needed in dental hygiene. Thus, only provisional acceptance was granted pending appointment of added faculty. Allocation of funds for new positions in 1963-64 permitted the appointment of Miss Patricia Peterson as a term B instructor in dental

hygiene. The Council's appraisal of the dental hygiene program last October once again was one of approval.

A separate committee of the Council evaluated our dental assisting program last November and granted full accreditation. This program, now in its tenth year, was the first University-oriented one in the country and has served as the prototype for the development of several other similar programs. The dental assisting program at Minnesota, which continued to improve last year, is very important in the training of auxiliary personnel so desperately needed in dental practice.

Study of Curriculum—In the fall of 1962, a committee with Dr. J. R. Jensen as chairman was appointed by Dean Crawford to conduct a thorough study of the curriculum of the undergraduate dental program. The first phase of the study, made in the 1962-63 academic year, was an analysis of the basic medical science courses. Specific attention was given to course depth and content, degree of correlation with the clinical disciplines of dentistry, comparisons with similar courses in other dental schools, possible means of improvement, position in the curriculum, and other matters of importance. A subcommittee for each basic science was formed with membership from the science department and the dental faculty. The deliberations and recommendations from the subcommittees were valuable. The cooperation by the basic science faculty was most gratifying.

In the uncertainty of the administration situation in the School in this past academic year, it was decided to postpone the second phase of the study until the new dean was selected. He would then have the prerogative to decide the direction and extent of the study. It is important to report that in the past biennium several new courses were offered and some scheduling changes were effected.

The study of the curriculum will be resumed in full force in the 1964-65 academic year. The second phase of the study will consist of a critical analysis of the dental courses. Specifically, these courses will be examined for possible duplication, content, methods for improvement, necessity for dilution, deletion, or expansion of courses, and other pertinent points.

Honors Program—In the last decade, honors programs have become increasingly important in the American educational system. The concept of offering more challenging courses and programs for the more capable students at various levels of education has been well accepted. Dental educators have recognized the values of this concept and have introduced it into dental education. A variety of plans have been presented and discussed at dental educational conferences.

Our School of Dentistry has made some progress in this field and expects to expand the opportunities for this type of study by our students. During the past biennium, the Division of Operative Dentistry developed a plan to permit the sophomore students who were making exceptional progress in the operative dentistry laboratory course to begin operating in the clinic on patients, a step which ordinarily begins in the students' third year in dental school. The students who became involved in this program were given special attention and very personal instruction. They responded enthusiastically to this opportunity and felt that it was stimulating and worthwhile.

Other variations have been considered. Plans have been discussed to develop a broader and more intensive honors program. One exciting plan which has been contemplated is to allow third and fourth year gifted students free time to do research, to gain increased experience in certain phases of clinical dentistry, or to be part of an exchange program with other dental schools, primarily those in the C.I.C. Our School of Dentistry does intend to explore all possible ways of conducting a progressive and improving educational program.

Undergraduate Dental Program—The major undergraduate educational program in the School is the four year course leading to the D.D.S. degree. It is vital that high quality students be admitted to this program for it is the backbone of dental education and the entire field of dentistry. Thus, it is imperative that a positive recruitment effort be made so that dentistry gets its fair share of capable students.

All studies indicate that the private practitioners of dentistry comprise the most influential group to encourage capable young men and women to consider careers in dentistry. The School of Dentistry has cooperated with this effort by providing recruitment literature to the practitioners, answering numerous inquiries, welcoming visitors to the school, conducting interviews, and by other means.

The faculty has been exceedingly active in discussing the opportunities in dentistry with high school and college students. We have hosted scores of individual students and groups of prospective students and have conducted special Career Days for several years. This past May, two such programs were held in the School. One was for high school students throughout the state who had declared an interest in dentistry and dental hygiene at the time they took the Minnesota Scholastic Aptitude Test while they were juniors in high school. The Student Counseling Bureau at the University supplied the names of the students in this group who ranked in the upper one-fourth on the examination. Special invitations were sent to these students to attend the Dental Careers Day. The program, which attracted about 70 students, was held on May 16 and was very successful. The students were shown a movie on "The Challenge of Dentistry," given some brief talks on the opportunities in dentistry, and then shown special demonstrations throughout the school. This was the Fourth Annual Dental Careers Day, a venture which is making a solid contribution to the total recruitment effort. The other Dental Career Program, held on May 1, was sponsored by the Minnesota section of the American Society of Dentistry for Children. Our School hosted the program and provided special demonstrations and other points of interest for the members of the Society and their guests, who were prospective dental students.

In 1957, 209 students applied for admission to the undergraduate dental program at Minnesota, the lowest number in the last fifteen years. During the early 1950's nearly 400 students were applying, a ratio of almost 4:1 to those accepted. Since 1957, there has been a gradual increase in the number of applications. There was some leveling off in the number of applications the past two years, but the number for the 1964 freshman class was 303, an increase of 38 over 1963. The scholastic ability of the applicants as measured by the college records and aptitude test scores has been reasonably constant the last few years. However, the average scores on the Dental Aptitude Test for the 1963 class were the highest of any class since the inception of this pre-admission examination eighteen years ago.

The minimum requirement of 90 quarter credits from an accredited liberal arts college is still in effect, but the Committee on Admissions and the faculty fully recognize the value of additional pre-dental liberal arts education. We have discussed the possibility of declaring preference for admission to students with three or more years of pre-dental study or even making three years a minimum requirement.

In the 1963 freshman class, 46% of the students completed the minimum of two years, 36% had three years of college, and 18% completed four years of college, most of whom earned B.A. or B.S. degrees. Throughout all American dental schools, over 60% of the entering freshman students have completed three or more years of pre-dental liberal arts work. Some schools give preference to students with three or more years of study while others require the minimum of three years, and the University of Montreal requires four years with a degree.

With the increase in graduate education in dentistry, it has become apparent that deeper and broader liberal arts education is helpful and even imperative for many of these students. Thus, the faculty has been encouraging pre-dental students who may be considering graduate education to prepare themselves better by taking at least three years of liberal arts work and emphasizing more intensive study in high mathematics and the sciences.

The course requirements have remained quite similar for a number of years, but three years ago we increased the minimum number of credits in English and organic chemistry. These requirements remained flexible at first while the students and colleges became fully aware of the change. The Committee on Admissions has been pleased to see the cooperation of the

colleges with these changes. Now the requirements are quite firm, with exceptions being made only in unusual circumstances.

The selection of students for the undergraduate dental program is a serious and difficult responsibility for the Committee on Admissions. The three main criteria for admission which we use at Minnesota are scholastic achievement in the pre-dental college work, scores on the Dental Aptitude Test, and the residency status of the applicants. We do use other information to a lesser degree, and also fully recognize the importance of such intangible factors as moral character and motivation for success in dentistry. These intangible factors, however, are very difficult to measure and compare.

Several years ago Dean Crawford and the Committee on Admissions discussed the need to develop a better system for predicting success in dental school. Dr. Crawford requested the assistance of the Student Counseling Bureau. In the summer of 1962, Dr. Albert Hood of the Bureau and a graduate student conducted a very thorough study of the correlation of numerous factors with success in dental school for students in our School who had completed the freshman year for the years 1957-62. The factors included grade point average in pre-dental study, individual scores and combined scores of the various parts of the Dental Aptitude Test, years in college, school attended, age of applicant, occupation of the father of the applicant, and so forth. These factors were compared with the students' total achievement in the first year in dental school and accomplishment in individual courses and types of courses.

The result of this exhaustive study using computer analysis was a formula, based on regression equations, including five factors that when combined proved to be the most predictable. The factors were grade point average in college, average academic score and average manual score in the Dental Aptitude Test, years of pre-dental study, and the type of college attended. This system has been used in the admissions work for the selection of the 1963-64 freshman classes and has been very helpful to the Committee.

Major Clinical Research Training Grant—The largest and perhaps most significant grant was the five-year Clinical Research Training Grant of \$400,704, which was received in November 1963. This generous grant from the United States Public Health Service is to support our post-sophomore D.D.S., Ph.D. program directed by Dr. Robert J. Isaacson. This program to train research workers and teachers for dentistry is the only one of its kind supported by the U.S.P.H.S.

As Dean W. H. Crawford wrote in the 1960-62 Biennial Report, we have had a long-standing Ph.D. training program with the Ph.D. in a basic science and the minor in another basic science. Almost invariably, however, the people who completed such a program at Minnesota or elsewhere lost interest in dentistry. Dean Crawford initiated in 1957 a Ph.D. program for dentists with the major in a basic science and the minor in a special phase of dentistry. This important effort to train the much needed research workers for dentistry was slow to develop at first for lack of interested and capable students. Now, however, it is very active and successful.

Through the vision and effort of Dr. Crawford and the excellent planning of Dr. R. J. Isaacson, it was determined that another effective program to train investigators and teachers who should remain interested and productive in dental research would be a combined D.D.S., Ph.D. plan. The students in this program would begin their special training after completing their sophomore years in dental school. This plan, designed in 1962, was started in July 1963 with initial financial aid from our General Research Support Grant. Three exceptionally able students began the combined study at that time. The plan is to admit three new trainees per year as financial support is available.

The students will spend approximately six calendar years in the program and should earn the D.D.S., M.S.D., and Ph.D. degrees. During the first three years, the trainee completes his remaining eighteen months for the D.D.S. degree and spends the equivalent of two academic years in fundamental study in mathematics, the sciences, and related subjects. If normal progress occurs, the trainee should, in the next three years, concentrate on some special phase of dentistry such as periodontics, oral surgery, or orthodontics and complete the requirements for the Ph.D. degree. Ordinarily, the M.S.D.

degree would be earned after eighteen months in this second phase of the program with the major being in a special aspect of dentistry and the minor in a basic medical science. For the Ph.D., which follows in approximately eighteen months, the major is in a basic science and the minor in a special dental discipline. It is expected that there will be some flexibility in the schedules for the trainees so the time periods outlined above are guidelines, but it is unlikely that the trainee could complete the total requirements of the program in less than six calendar years.

The program, which has received national and international attention, was submitted to the United States Public Health Service for financial support. The five-year grant of \$400,704 awarded last November will provide stipends and tuition for the students and support some faculty and auxiliary personnel and the purchase of some equipment necessary for the program. The School of Dentistry is indeed proud of this grant.

Post-Doctoral Research-Training Grant—As stated above, a new post-doctoral Ph.D. program was started at Minnesota in 1957. A grant was obtained at that time from the United States Public Health Service to support the program. Initially, the annual allocation was \$37,000, but last year the award was \$57,000. Dr. R. J. Isaacson, who is the director of this Post-Doctoral Research-Training Program created an expanded plan for the activity and requested additional support from the U.S.P.H.S. The School of Dentistry is pleased that in June 1963 a supplemental five-year grant of \$182,000 was received from the U.S.P.H.S. to support this program.

This graduate training activity is flourishing now with five students presently working toward Ph.D. degrees. The new supplemental grant will permit us to accept more students for study. Fortunately, we have excellent candidates applying for admission.

General Research Support Grant—During the 1962-64 biennium, this flexible support grant from N.I.H. permitted significant advances in our research activity. The grant, which is on a calendar year basis, totaled \$51,828 in 1963 and \$55,127 for 1964. This grant was used mainly in the last biennium to support the personnel and research in our microbiology laboratory. The research on bacterial genetics and the ultrastructure of PPLO by Dr. D. L. Anderson was supported initially by the GRS fund. One of the main uses of the GRS fund is to support pilot studies and new projects which can later be financed by individual research grants.

One of the most important aspects of the support from the General Research Support Grant is that it can be used for research fellowships for undergraduate students. In the summer of 1963, some very penetrating research projects were conducted by these students. Studies were made in fluoride metabolism, bacterial contamination of the air in dental surgical areas, radioautography, periodontics, human genetics, microbiology, and oral pathology. These opportunities for research are vital to these students, most of whom go on to graduate study and careers in teaching and research.

Dental Student Training Grant—This grant, which totaled \$32,033 in 1962-63 and \$33,327 in 1963-64, is from the U.S.P.H.S. for the purpose of training undergraduate dental students in the use of dental assistants. The grant should continue for at least three more years. This study is under the direction of Dr. J. R. Jensen. Recently, a project site visit was made by a team from the U.S.P.H.S. to study this training program. The report which followed was most favorable.

University Relations—A very positive effort was made this past year to foster good relations with outside dental organizations and the public. We stressed our desire to cooperate with the Minnesota State Dental Association, local dental societies, the Minnesota State Board of Dental Examiners, and the Minnesota Dental Alumni Association in the common effort to improve the dental profession in Minnesota.

The faculty responded willingly to serve as hosts to numerous visitors—dentists, prospective students, parents and friends of students, student groups, representatives of other institutions and governmental agencies, foreigners, and many others. The staff was active in presenting lectures at scientific

meetings, talking to high school and college groups on the opportunities in dentistry, and discussing some significant aspects of dental health before PTA groups, civic groups, and service clubs.

Dr. Leon Singer appeared before village councils and special interest groups to substantiate the efficacy and safety of fluorides in the prevention of dental decay. Dr. Wallace Armstrong served as an expert witness last June in a court case on fluoridation in Dublin, Ireland. This was an injunction suit tried in the High Court of Ireland. Dr. Armstrong's strong defense for fluoridation and his deep scientific knowledge of the subject were most influential in this court case. The suit was defeated, and the water system in Ireland remains fluoridated.

The faculty continued to be active as consultants for dental practitioners by answering scores of letters, examining special patients at the request of the practitioners, and having numerous personal discussions with dentists to advise them on certain dental problems.

Physical Plant Improvements—During this past year, the much awaited remodeling of the fifth floor in Owre Hall began. These alterations are being made to provide improved facilities for research and the training of research workers. The remodeling is progressing well and should be completed by fall.

The Owre-Jackson Addition, which was finished in the 1960-62 biennium, has provided some valuable working space for the School of Dentistry. One of the disappointing features of the facilities, however, was the incredible inadequacy of the ventilating system in the space occupied by dentistry. While the laboratories created for the Medical School were air-conditioned, the facilities for dentistry were virtually void of a simple ventilating system. This gross omission was pointed out during the construction of the addition, but nothing came of it.

After the technic laboratory for sophomore dental students was in full operation, the need for a good ventilating system became very apparent. While the laboratory was in session, the room was too warm and the air apparently lacked oxygen and seemed contaminated with fumes from the gas burners.

Environmental Health was asked last winter to sample the air in the laboratory while it was in full use. The air did not meet good health standards. In view of this report, Plant Services was requested to correct the situation as quickly as possible. We are pleased that work to install a ventilating system was started just after the close of 1964 Spring quarter. It should be completed by fall.

Plans were made this past year and funds reserved to remodel a section of our main clinic on the third floor of Owre Hall. This change will permit the teaching of a rather new concept in operative dentistry, the part of dental practice concerned with the cutting of teeth and placement of fillings. This special section will be equipped entirely with air turbines.

Conventional rotary engines and instruments will not be used. A few dental schools have converted their entire restorative dentistry facility to this technic. It was our plan to establish a limited section to determine its value. When we obtain our new dental school, this experience and study will be most helpful in planning the new operation. The equipment can be moved to another building.

Future Needs and Plans—The administration and faculty of the School of Dentistry look forward eagerly to the challenge of the future. It is our intention to work vigorously as we strive for pre-eminence in dental education and research among dental schools.

We will strengthen our preventive dentistry program, thus emphasizing prevention more than treatment. In fact, tentative plans are being made to create a Division of Preventive Dentistry. Several additional full-time faculty members will be needed to make this goal a reality.

Basic and applied research will definitely receive increased attention. The majority of the effort will be directed to determining the causes of periodontal disease, dental caries, and other oral diseases. The full-time faculty will have to be released from some of their present duties to have more time for

research and writing. This is one of our prime goals. It is obvious that increased staff will be needed to accomplish this.

Increased activity in postgraduate and graduate study is one of our objectives. The continuation courses must be expanded and improved to meet the needs of the profession. A critical analysis of our graduate programs will be made to explore all possible ways to make them more effective. Expansion of these two important activities will require additional faculty.

The faculty desires to adopt more of a total patient care concept in the teaching of clinical dentistry. The students will be expected to render all needed dental services for many patients which would more nearly correspond with accepted general practice. This plan is not easy to achieve with large classes and a heavy patient load, but some expansion of this concept must be made.

It is our intention to initiate marked enlargement of our hospital programs. We have maintained an excellent hospital dental service in the University Hospitals for a number of years, but the principal activity has been in oral surgery. It is essential that broad dental services be provided in the University Hospitals and that all divisions in our School become actively involved. The prime purpose is to create a broad base of hospital experience for our undergraduate and graduate students. Tentative plans are being made to extend our hospital activities beyond University Hospitals and the Veterans Administration Hospital. We have been given encouragement that hospital experience could be obtained by our students in Hennepin County General Hospital, one private hospital, and some of the institutional hospitals.

It is our hope that a Cleft Palate Center can be established in the School of Dentistry and the University Hospitals. There is an outstanding opportunity here for development of such a center. This type of activity requires the services of a number of dental and allied specialists and would provide excellent educational and research benefits for our students and faculty.

There is a rich opportunity for increased liaison with the Mayo Clinic and Mayo Foundation. This past year some exchange lectures by faculty members of the two campuses were held, and one of our undergraduate students was awarded a summer fellowship for study at the Mayo Clinic. We plan to increase student and faculty exchange and possibly enter into joint educational ventures to the mutual benefit of the two faculties.

A careful study of the strength of our staff has revealed an incredible shortage of academic and civil service personnel. Many of the faculty are overburdened with teaching and administrative responsibilities, leaving precious little time for research, writing, and simple reflection. The student-teacher ratios in several courses are inordinately high, making effective and efficient teaching impossible. More faculty is desperately needed. There is a definite need to raise faculty salaries to permit us to obtain and retain competent faculty. This is most important.

Certainly one of our major goals is a new dental building. Although our present building is reasonably adequate, it is inefficiently laid out and does not allow for increased enrollment and the development and enlargement of new and advanced programs in dental education and research. It is our intention to work vigorously to obtain new facilities to allow us to do an ever improving and expanding job.

—E. M. SCHAFFER, dean

UNIVERSITY OF MINNESOTA, DULUTH

New enrollment records were established each quarter and each summer term during the biennium, with the fall quarter 1963 registration of 3,178 undergraduates representing a 131 per cent increase over the registration in 1953. As new buildings were completed, spaces were immediately filled by shifting departments from temporary quarters or from the old campus to the new.

The problems of meeting the instructional needs of a growing student body centered mainly in a shortage of staff members and limited funds in supply, expense, and equipment budgets.

Additions to the physical plant included a new \$896,000 Home Economics Building, a \$505,000 Humanities Building Addition, and construction progress on the Education Auditorium, an addition to Tweed Gallery, and an addition to Kirby Student Center, including the new UMD Campus Club. Plans and specifications were also completed for two major building projects authorized by the 1963 Legislature—an addition to the Library and a new residence hall to house 202 students. Formal dedication of the Industrial Education Building took place on April 5, 1963. The Provost presented a \$6,202,000 1965-67 building request to the Legislative Building Commission, meeting June 6, 1964, on campus.

Community and campus response to distinguished speakers brought to the campus was excellent during the biennium. Speakers included President John F. Kennedy, Arnold Toynbee, John Coleman, Sterling McMurrin, S. O. Adebo, Brigadier General Joseph L. Dickman, Associate Justice William O. Douglas, Bergan Evans, Louis Lomax, Benjamin Fine, Dean Athelstan Spilhaus, Senator Eugene McCarthy, and Congressman John A. Blatnik. Commencement speaker on June 14, 1963 was the Right Reverend Monsignor James P. Shannon, President of the College of St. Thomas. President O. Meredith Wilson addressed the Class of 1964 on June 12, 1964.

Major curricular changes included the addition of the M.S. degree in chemistry, a reduction in education course credits for students in teacher education, and a substitution of selected courses in place of a minor for students majoring in music.

Marked increases in research grants to staff members, and for National Science Foundation-supported institutes, were noted during the biennium. Most of the support went to staff members in chemistry, physics, geology, biology, mathematics, business and economics, and psychology.

Morris Kantor was appointed visiting artist for 1963 and again in 1964. Visitors to Tweed Gallery have now reached a total of about 15,000 annually, with many coming in groups for special showings. Jacques Lipchitz was commissioned in 1963 to produce a bronze statue of the French explorer, Daniel Greysolon Sieur DuLhut, to be erected on the campus near the entrance of Tweed Gallery. Funds were provided by a trust set up by the late Albert L. Ordean of Duluth.

Growing concern has developed on campus over the economic future of Northeastern Minnesota. Far too many of the 20- to 38-year-olds are having to leave the area to find employment. However, interest and activity in support of the proposed Taconite Amendment has increased, the U. S. Forest Service has continued and will expand its marketing research project, and the staff members in business and economics have been active in studying the economy of the area. There seems to be very little question that the future of Northeastern Minnesota is going to be tied closely to available educational opportunities and the "three T's"—Timber, Taconite, and Tourism.

Because of high birth rates starting in 1946, the enrollment potential for the Duluth campus will increase rapidly, beginning in 1964. The accumulative effect in the next biennium will be marked since past records show that 73 per cent of the students have been coming from within 35 miles of the campus. Budgetary support for increased numbers of able students is bound to continue as a major concern on the Duluth campus.

—RAYMOND W. DARLAND, *provost*

COLLEGE OF EDUCATION

Perhaps the most noteworthy developments in the College of Education during this 56th and 57th year of its operation within the University's family of colleges have been this unit's efforts in self-study and reappraisal of activities and programs. Some of this evaluation has been stimulated by events beyond its own control—such as the untimely death of Dean Walter W. Cook, the scheduled visitation by a committee appointed by the National Council for the Accreditation of Teacher Education, and increasing concern by professional organizations and agencies for fifth-year programs for teachers and other advanced graduate work. More pressures for re-examination were gen-

erated within the College as faculty members and administrators joined forces in exploring ways in which teaching, advising, research and service could be promoted more effectively to meet the ever-growing needs of the profession, the schools, and colleges of the state and nation. The biennium, further, was one of consolidating gains, taking advantage of opportunities, and tooling up for expected increases in enrollment and responsibilities.

Organization and Structure—The College suffered a major blow when Dean Walter W. Cook suddenly and prematurely died September 9, 1963. For eleven years he had served as dean with great distinction; his death was a marked loss to education nationally, as well as to the College and University.

President Wilson immediately asked Associate Dean Marcia Edwards to serve as Acting Dean until the new dean could be selected. He also appointed a faculty committee, under the chairmanship of Dean Horace T. Morse, to advise him in that selection. This committee approached its task with utmost care and seriousness; much time and effort were devoted to an appraisal of college needs and clarifying the responsibilities and qualities sought for the deanship. A national search was made; the committee made nominations to the President; and on May 8, 1964, the Board of Regents approved President Wilson's recommendation for the appointment of Robert J. Keller as Dean, effective immediately.

Considerable progress was made during the biennium toward examining the College's long-standing problems of needed reorganization. For years, a large division called "General Education," with the Dean as "departmental" chairman, has provided a main segment of the work of the College. This division has been supplemented by several smaller departments, chiefly in special fields. Funds available in the first year of the biennium permitted an important move toward reorganization with the establishment of the Department of Elementary Education.

Early in 1962-63, the faculty elected an *ad hoc* Committee on the Structure and Function of the College. This Committee addressed itself to internal problems of the College, specifically those inherent in organization for administration, departmentalization, policy making and planning procedures, the role of committees, research and scholarly study, the mission of the College, and possible need for a constitution. Its first reports, presented in the fall of 1963, provided the agenda for a half-day full-faculty conference. Later, after departments and instructional groups of the faculty had discussed the recommendations and reacted to the proposals, the full faculty considered revised proposals from the Committee, and approved several steps which should help clarify the College's organization. One recommendation which was carried out immediately called for the election of a standing faculty Committee on Planning and Policy. This newly elected committee proceeded through the remainder of 1963-64 to provide faculty counsel to the College and the administration.

Pursuant to previous planning for departmentalization and the definite endorsement of the Structure and Function Committee, two new departments were organized during the winter of 1964—Educational Administration and Educational Psychology. Both appear as regularly budgeted departments beginning with 1964-65. Further decisions remain for departmentalizing those areas which still are under "General Education," involving History and Philosophy of Education, Higher Education, and Secondary Curriculum and Instruction, the last of these including secondary academic areas in teacher education, business, distributive and economic education, and audio-visual instruction.

On December 14, 1962, the Board of Regents approved the reorganization of physical education and athletics. A major result was the creation of the School of Physical Education, under the College of Education, including the professional undergraduate and graduate programs in physical education for men and for women, school health education, recreational leadership, the non-professional physical education program, and the intramural activities. By the opening of the second year of the biennium, the staffing and departmental realignments incident to the establishment of the new School were completed, with Richard Donnelly as director, and Eloise Jaeger and Deane

Richardson as associate directors and chairmen, respectively, of women's and men's physical education departments.

In addition to studies by the faculty in relation to reorganization, extensive review of the College's programs was conducted by self-study committees in preparation for the Visitation Committee appointed by the National Council for the Accreditation of Teacher Education as part of their regular re-accreditation procedure. A detailed report about the College and all its enterprises was prepared by the faculty. The visiting team, seventeen in number, spent the last week of January 1964, in consultations on the Minneapolis and St. Paul campuses. The response from NCATE is expected early in the new biennium.

New Programs—Several new programs were initiated during the biennium, all with principal support through grants from outside sources.

Emerging from the work of the Minneapolis Area School Study Council during several preceding years, the Educational Research and Development Council was incorporated in August 1963. The Council pools resources of its member schools and the College of Education for studying immediate and long-range problems of the suburban and city schools in the Minneapolis-St. Paul metropolitan area. Cooperative financing by the University and the Council have enabled the Council staff to initiate several important studies during the second year of the biennium. Grants from various sources, in addition to the basic support of the department, have totaled \$30,550.

A program in Economic Education was added in the fall of 1962, subsidized by the Minnesota State Council on Economic Education, which includes representatives from business, labor, agriculture, and education. Under grants totaling over \$70,000 for the past two years, summer and year-long programs with fellowship support have been planned under the Council, the instruction being offered jointly by the Department of Economics and the College of Education. Some 34 schools have participated in curriculum studies involving economic education. In the winter of 1964, Minneapolis was chosen as one of three "model" systems for intensified efforts and national grants to support projects in economic education over the coming three years.

During 1963-64, the Departments of Educational Psychology and Child Development joined with the Department of Psychology in developing plans for a Center for Research in Human Learning. Near the end of the year, the National Science Foundation and the National Institutes of Health agreed to fund the first three years of this major research program.

Since 1962, a new program for training teachers of emotionally disturbed and socially maladjusted children has developed strongly under federal support. Increased grants available beginning fall 1964, will permit the addition of another faculty member in this growing field.

A new doctoral program for training educational psychologists with emphasis upon research preparation was approved in 1962-63 for fellowship support under the National Defense Education Act Title IV. In the second year of the biennium, approval was received also for similar support for training supervisors and coordinators of special education programs.

Research Projects and Grants—In addition to grants for new programs, noted above, the faculty and departments of the college have received extensive support for a wide variety of research projects. Several have been mentioned as illustrations.

Grants totaling \$358,000 were held by faculty members in the Institute of Child Development. Funds granted in the previous biennium to Secondary Education for Project English were continued for the research and instruction of that area; and Project Social Studies was begun under new support which will total approximately \$221,000 for a five-year period.

The Bureau of Educational Research has continued to concentrate its efforts on its program of research in creativity. Under funds from the U. S. Office of Education, the biennium has brought to completion two important studies in this area: the Role of Evaluation in Creative Thinking; and Programmed Experiences in Creative Thinking in the Fourth Grade. *Guiding Creative Talent* and *Education and the Creative Potential*, written by the Bureau's director, E. Paul Torrance, and based on studies conducted under

his direction, have been reviewed widely and favorably in the United States, England, and Japan. The first of these received the 1963 award from the American Personnel and Guidance Association as the outstanding original research contribution of the year in its field; the second was named by the National Education Association as one of the three outstanding books in the general education field in 1963-64.

Among various studies continuing or newly started in Agricultural Education is an investigation of educational restrictions to agricultural success and the relation of education and income among farmers. This project is being financed under a \$62,000 grant from the U. S. Office of Education which was received near the end of the biennium.

Industrial Education received over \$21,000 in grants for research, including funds for studying the relation of industrial arts to various factors in post-high school trade and technical curriculums.

The Office of Student Personnel concluded data collection and analysis for the second part of its longitudinal study of Factors Operative in the Selective Retention of Students in Teacher Education, financed by a grant from the U. S. Office of Education. Progress was made on a second project of this office, to examine changes resulting from the recently instituted shift of the first year's registrants in elementary education from the College of Education to the College of Liberal Arts.

In areas of Educational Psychology, four important studies were initiated in 1963-64, all financed by special grants: an investigation of the effects of training on counseling performance; a study to find better methods of teaching reading to deaf children; research on methods of analyzing the results of educational experiments; and a study of learning processes in retarded children, using the laboratory facilities established at Cambridge in the preceding biennium.

The School of Physical Education completed an agreement for joint research with the Laboratory of Physiological Hygiene, designating one faculty member to carry primary responsibility for gathering data under a \$65,000 research grant awarded by the National Institutes of Health. One initial project will investigate physical fitness measures in school-age children.

Instruction and Advising—Funds for supporting new positions were used almost entirely for enrollment-related instruction, such as student teaching supervision, for departmental reorganization, and for providing relief in areas of the College where advisory loads have been unduly heavy, such as elementary education.

The interview load in the Student Personnel Office increased 22 per cent over the two-year period, although enrollment increase in the College was 3.7 and 3.0 per cent for these years. Here reflected is the trend toward a predominantly upper division student registration in the College and a related increase in consultation with students not registered in the College but concerned about possible plans for future programs. Approximately two-thirds of the interviews were with non-College of Education students, as compared with only half the interviews in that category four years ago.

For the faculty advisers throughout the College, a similar increased load of inquiry and consultation, from both undergraduate and graduate students, has been evident. In several areas at the graduate level, present advisory loads preclude acceptance of many more applicants, and there has been a consequent effort toward more selective admission of advanced students in such fields as counselor education, school psychology, several areas of elementary education, and both secondary and elementary school administration.

Notable progress has been made in the School Psychology Training Program, for which grants from the National Institutes of Health have nearly doubled resources during the biennium. One faculty member has been added, and further assistance must be soon obtained.

The training program has been continued and strengthened in all areas of work with handicapped children, another field principally supported by federal grants and special appropriations. Progress in work for teachers of deaf and hard-of-hearing children has been notable in this biennium; and for teachers of the blind, some of the programs previously supported by Seeing Eye, Inc., will be covered after 1964 through increased federal support.

Discussion of relationships between University High School and Marshall High School, Minneapolis, resulted in an agreement between the Board of Regents and the Minneapolis Board of Education for increased coordination of facilities to serve students in the two schools and to provide more opportunities for student teaching to prospective high school teachers. The agreement also establishes procedures for joint experimentation and curriculum development in secondary education.

College Service—Many educational agencies, organizations, and groups continue to look to the College of Education for consultative and other services. Close ties have been maintained with regional, state and national professional organizations, often in major leadership positions. This has been particularly true during the past biennium with the American Educational Research Association, the American Vocational Association, the American Personnel and Guidance Association, the North Central Association of Secondary Schools and Colleges, the U. S. Office of Education, and other similar organizations. Faculty members have assisted the State Department of Education, the Liaison Committee on Higher Education, the State College Board, and the State Junior College Board in various capacities.

This continual consultation and service which the faculty gives to school personnel is closely related to advising, particularly at the graduate level. This contribution of the College, normally an expected outcome of its studies and instruction, is often not as clearly identified as are its research production and instructional programs. Nonetheless it merits attention as one of the important functions of a College of Education in a land-grant University.

Much service has been rendered to individual school districts or systems by the Bureau of Field Studies and Surveys, which completed 24 surveys under contract with these agencies and had 11 more underway as the biennium ended. Among the projects completed during the biennium were an evaluation of the future role of the Northwest School of Agriculture, a two-volume study of vocational education at Duluth and in northeastern Minnesota, and a curriculum study at Menomonie, Wisconsin, in which twenty University staff members participated.

Important, too, to schools and colleges has been the work of the Bureau of Recommendations. The second year of the biennium can be cited as typical of the yearly pattern of openings and placements handled through this department. A total of 26,972 vacancies from all states and from more than 27 other countries were reported during the 1963 placement year. Of more than 2,000 registrants for placement, 56 per cent took new positions in 1963, approximately two-thirds of them in Minnesota. Among elementary teachers, 76 per cent of the placements were within the State of Minnesota. Thirty-five per cent of the Bureau's registrants were graduates newly prepared for teaching, and of this group, 77.5 per cent were in teaching positions at the beginning of fall following their graduation. Among these seniors, the percentage entering teaching positions in Minnesota was greater than for the total group of registrants in the Bureau, 85 per cent of the elementary teachers and 75 per cent of the secondary teachers remaining in the state for their first teaching positions.

Current Problems—A major problem to the College has continued to be the lack of adequate space and facilities. With the exception of provision for some additional office space, little progress was made during the biennium in solving the College's lack of adequate space for several of its endeavors. The former request for a new building to house departments now crowded into undesirable quarters in Pattee Hall was reviewed and renewed, in the hope that relief might be forthcoming during the next biennium. The space needs of industrial education and physical education for women are also becoming increasingly critical.

As this brief report has emphasized, the biennium has been a time of self-study in the College. Planning which has absorbed much effort, and which will continue to do so in the years ahead, has related principally to the following: (1) finding strong staff for the undergraduate program and for the graduate specialities; (2) moving toward more reliance on regular faculty members for instruction and advising, rather than having to depend too heavily on

part-time temporary faculty members; (3) providing more adequate space for all phases of the College's work; (4) revising curriculums, in consultation with faculty in other colleges of the University where Education students complete main portions of their studies; (5) developing international and comparative education programs; (6) setting priorities for the use of limited support funds; (7) improving both instruction and advising of students; (8) balancing efforts between undergraduate and graduate needs; (9) using the time of faculty members and administrative officers most effectively for the operation of the College.

—ROBERT J. KELLER, *dean*

INSTITUTE OF CHILD DEVELOPMENT

During the biennium the title of the course offerings and the undergraduate major in the Institute of Child Development were changed to Child Psychology, thus bringing into line the designation for the undergraduate and the graduate programs. Curricular and research developments begun during the previous biennium were consolidated, and a new graduate curriculum in Child Psychology was formulated. At present the Institute offers one of the most varied and extensive graduate training programs in the field of child psychology in the United States.

Graduate Program—There were 32 graduate students enrolled in programs of the Institute in the fall of 1962 and 43 graduate students in the fall of 1963—nearly twice the number of graduate students enrolled in the previous biennium. More impressive, however, than the steady increase in number of graduate students enrolled is the quality of the students. The academic preparation of graduate students applying for admission to the Institute is increasingly strong, and interest is predominantly in doctoral rather than M.A. programs. The National Institute of Mental Health Training Grant in Child Psychology has been increased to include twelve predoctoral trainees. Four Ph.D. degrees and 16 M.A. degrees were awarded during the biennium. In addition, five postdoctoral fellows and two visiting predoctoral fellows were in residence.

Research Programs—Numerous research projects were initiated or in progress, and 53 papers were published in professional journals by the staff. Support for research was supplied by the National Science Foundation, National Institute of Mental Health, U.S. Office of Education, and the Graduate School Research Fund of the University of Minnesota. Grants totaling \$358,000 were held by Institute staff members during the biennium.

Teaching—There were 4,688 students enrolled in child psychology courses, an increase of 20 per cent over the preceding biennium. Extensive review of both the undergraduate and graduate curriculums was conducted, and a series of six graduate courses dealing with specific aspects of child psychology was offered for the first time in 1963-64.

Nursery School—Two hundred and seventy children, 135 each year, were enrolled in the Institute Nursery School. The nursery school continues to serve as a major laboratory for child research and for both graduate and undergraduate training. The nursery school staff was instrumental in organizing the Second Conference for the Improvement of Nursery School Curriculum, which was sponsored by the New World Foundation and held in Minneapolis in May 1964. An application for a five-year training grant to support the expansion of the graduate program in behavior and development of preschool children has been submitted to the National Institute of Child Health and Human Development.

Child Development Clinic—The relationship between the Child Development Clinic and the Clinical Child Psychology Program of the Department of Psychology has been strengthened by increased utilization of the clinic in the training of clinical child psychologists. Further strengthening is anticipated when, in the fall of 1964, training in clinical child psychology becomes

a joint program of the Institute of Child Development and the Department of Psychology. During the biennium 106 families, including children and parents, were seen for diagnostic evaluation, and 48 families were seen for therapy.

Institute on Cognitive Development—During the summer of 1964 a six-week summer Institute on Cognitive Development is being held at the Institute of Child Development (June 15 - July 24, 1964). Sponsored by the Social Science Research Council, this special institute has brought together 30 outstanding graduate students and three distinguished visiting professors from departments throughout the country for a program of intensive study and discussion concerning various aspects of cognitive development in children.

Building—Remodeling of the building, begun in 1964, was continued in one suite of offices on the second floor, and funds have been made available for the modification of two large rooms. It is hoped that an additional floor can be constructed on the building in the near future. Institute facilities were augmented during the biennium by the construction of a mobile laboratory financed by funds from the National Science Foundation.

—HAROLD W. STEVENSON, *director*

GENERAL EXTENSION DIVISION

Growth and change marked the 1962-64 biennium for the General Extension Division. Record numbers of persons were served as the Division kept pace with, and frequently exceeded, rates of growth throughout the University. It's impossible to know precisely how many people are reached through the Division each year—through its Evening and Special Classes, the Center for Continuation Study, the Department of Correspondence Study, the Department of Audio-Visual Extension, the Department of Radio and Television, the World Affairs Center and State Organization Services, the Municipal Reference Bureau and League of Minnesota Municipalities.

It is, of course, simple enough to count the registrations in evening and special classes, in correspondence study, and the Center for Continuation Study. And here the figures are impressive. More than 18,000 persons were enrolled in evening and special classes during the first year of the biennium. In the second year the number rose to almost 21,000, an increase of approximately 15 per cent. More than 11,000 students were enrolled in correspondence study during the biennium and more than 20,000 enrolled in courses offered through the Center for Continuation Study. In the second year of the biennium alone, more than 44,000 persons received some form of formal instruction through the Division.

And beyond these were the hundreds of thousands served by Audio-Visual Extension, which distributed 130,000 programs to communities throughout Minnesota during the biennium; the Department of Radio and Television, which is responsible for the operation of radio station KUOM and University of Minnesota programs broadcast on Channel 2, KTCA-TV; the Municipal Reference Bureau and through it the League of Minnesota Municipalities, which includes in its membership virtually every community in Minnesota.

But it was not in numbers alone that the excitement of this biennium was to be found. A great share of it was to be found in the changing dimensions of programs, the new paths that were charted, the experimentation and developmental efforts that were made as we sought new ways to serve a swiftly changing society.

Behind the statistics is a world of excitement and challenge and change—a world in which the University through the General Extension Division seeks to share its intellectual concerns and interests with all who are able and willing to give the necessary time and attention. And in this the University, through the Division, achieves the ultimate fulfillment of the land-grant concept—that all men and women, regardless of station in life, shall have available to them opportunities for study and self-improvement.

The needs are all but endless. In a world that grows more and more complex, there is the need for ways in which men of science and industry

and the professions may keep abreast of technology's rapid change. In a world in which leisure time is increasingly available, opportunities for self-development and individual satisfaction are urgently needed. In a world in which the store of knowledge grows with astonishing speed there is great need for increased means through which that knowledge may be made available to agencies at all levels. In a world in which distances between nations are daily lessened, there is need for wisdom and understanding, not on the part of the few, but the many. In a nation in which maintenance of a free society is dependent upon a wise and enlightened electorate, the need for heightened efforts is imperative.

The pages that follow tell the story in detail, department by department. But a number of general changes need to be mentioned here.

During the second year of the biennium, conversations with those responsible for the administration of the Institute of Technology led to an agreement that there be created a Department of Continuing Education in Science and Engineering. This department was created with the start of the 1964-66 biennium.

Similarly, during the second year of the biennium, conversations with the Minnesota State Bar Association led to an agreement that the General Extension Division would cooperate with the Bar Association in establishing at the University a Department of Continuing Legal Education. Creation of the department is awaiting appointment of a director.

One of the most exciting efforts in the second year of the biennium was the establishment of a closed circuit television link to the Rochester Junior College. Supported in substantial measure by the International Business Machines Company, the link made it possible to transmit courses from the Minneapolis campus to Rochester by television. While its use was limited this first year, the project holds a great promise as a means through which the resources of the University can more readily be extended to serve an entire community. Conversations with educational, civic, and industrial leaders are going forward in an effort to maximize the usefulness of the link. It is hoped that in the new year a two-way link may be established between the Mayo Clinic and the University of Minnesota College of Medical Sciences.

Of even greater import is the plan to offer University of Minnesota courses for credit, through the General Extension Division, on Channel 2, KTCA-TV. Early in the 1963-64 academic year the Radio and Television Advisory Committee met to consider the possibility of courses for credit through broadcast television. It was unanimously agreed that the University, faced with the enormous numbers of students who will be seeking higher education, should examine every possible means of serving those students. It was recommended that the program be undertaken through the General Extension Division. The Senate Committee on All-University Extension concurred in this recommendation.

While the program will not be executed until the 1964-66 biennium, much of the developmental work was completed in the biennium covered by this report, and therefore it is worthy of note at this point.

The television link to Rochester and the proposed credit courses on Channel 2 underline the tremendous potential that television holds for the University in the extension of its resources. For through television, whether closed circuit or broadcast, the professor can reach out into many communities, rather than one alone. And it is the professor who will increasingly be in short supply and upon whom impossible burdens are placed by "overload" assignments.

The many and varied activities of the Department of Radio and Television are covered in detail below. It is interesting that they are not confined to extension activities. The Department has been responsible during the biennium for developing a highly sophisticated program of closed circuit television on the Minneapolis and St. Paul campuses that supports the regular academic program. This program is reported in detail in the section given over to the Department.

Not mentioned in the pages that follow, but deserving of special attention, is the Civil Defense program that was undertaken in the last year of the biennium and will continue into the years that follow. Through a contract with the Department of Defense, the General Extension Division completed

a series of 40 Civil Defense conferences for elected and appointed county and municipal officials and ten Radiological Monitoring training courses for selected persons in various communities. Success of the program brought special commendation to Colonel Robert Elliott, chairman of the University's Committee on Civil Defense, and Eldon Schulz, director of the Program.

A historic moment in the history of the Division was reached at the close of the 1962-63 academic year when Dean Julius M. Nolte reached retirement age. One of the truly distinguished persons in continuing education, Dean Nolte had brought the Division to a point at which it was recognized as among the leaders nationally and internationally.

The future of the General Extension Division is full of challenge. A recent study by the National Opinion Research Center speaks of the likelihood of "an adult education explosion." The first tremors are already upon us. Nor is it at the level of adult education alone that demands will be made upon the division. One of the areas of most rapid increment in enrollments is evening classes, and here the Division serves a substantial number of young men and women who cannot enroll in day classes because of economic pressures. This number will increase in proportion to or exceeding that increase anticipated by the University in its day classes.

The problem that poses greatest concern for the Division is that of space: office space, classroom space, meeting space.

While the Center for Continuation Study was the first of its kind in the nation, it has long since ceased to provide accommodations equal to the demands placed on it. As the regular academic programs of the University demand additional amounts of space, the General Extension Division finds itself in a situation in which it must debate the hiring of personnel because of lack of office space; meeting space, particularly for large groups, becomes more and more scarce. Add to this the fact that the units of the Division are badly scattered, and one has a measure of the frustrations inherent in the situation. While we recognize that these frustrations are not peculiar to the Division, they still exist. As the Division has expanded its programs, the amount of support dollars available to it has not increased commensurately. Today the percentage of state support funds is at 16 per cent of the total budget. A few years ago it was 25 per cent. Some means must be found to halt this erosion if the Division is to have the kinds of risk capital that make possible the development of new programs.

—WILLARD L. THOMPSON, dean

Audio-Visual Extension Service

For more than ten years, the Audio-Visual Extension Service has provided audio-visual teaching aids for statewide educational institutions. It fills, in addition, requests for audio-visual material from community organizations, business, industrial, and other groups in the state. In so doing, it served more than 3,000 communities during the biennium, providing more than 130,000 programs, from its library of more than 11,000 films.

The Audio-Visual Extension Service is constantly up-dating its store of equipment to better serve the people of Minnesota. The expansion in all audio-visual educational areas has been rapid. Many more adult groups, industries, nurses' training centers, public and parochial schools, colleges, and civic groups were served during the biennium. To meet this demand the department added over 700 prints—new titles and duplicate prints—to its library, many in specialized areas such as college-level materials, medical science, police training, mortuary science, mental health, salesmanship, and office procedures. Yet despite these advances approximately 5,000 requests for films could not be filled.

Institutes, conferences and workshops were co-ordinated with the College of Education, the Center for Continuation Study, the On-Campus Audio-Visual Department, the Correspondence Study Department, and other off-campus groups. The department assisted school superintendents, principals, and supervisors in setting up improved audio-visual programs, and it assisted other Extension Division departments with audio-visual problems.

The condition of films has been improved, especially in the use of electronic equipment for inspection and film booking. Two more film inspecting units and a fourth Electro-Kardex unit for film booking have been requisitioned. During the biennium an assistant to the director, Mrs. William Price, was added to the staff.

Publications—During the biennium the department published ten newsletters entitled "Look, Listen, Learn," a tape bulletin and supplement, and a new 250-page film catalogue. These were distributed to all schools, colleges, and libraries in the state and to other interested groups and individuals.

Future Plans—Through the new assistant to the director, the department has been developing plans to work with more out-of-state people, conduct more workshops and conferences, and work with institutes such as the Science Institute and Social Science Institute.

There are still many organizations and individuals, both on campus and off campus that are not aware of the extensive film and tape library and its availability to all people of the State. New informative brochures will be prepared; all old brochures will be revised and enlarged.

The department will continue to increase steadily the size of its film library; five to eight hundred new and duplicate prints should be added each fiscal year. The tape library—lectures of KUOM, the Institute of Child Welfare, and the Minnesota School of the Air programs—should be enlarged to provide a greater variety of materials. The department will continue to provide a twenty-four hour service on tapes to schools, radio stations, and any organization or individual within the state or out of state.

In order to increase and improve its efficiency and quality of service, the Audio-Visual Extension Service considers the following as needs:

Present: Acquisition of additional electronic inspection machines and a fourth unit of the Electro-Kardex booking files.

AUDIO-VISUAL EXTENSION SERVICE
BIENNIAL REPORT 1962-64

	1961-62	1962-63	1963-64
Number of Communities Served	2,829	2,802	2,900*
Number of Visual Programs Furnished	62,152	64,894	70,000*
Number of Shipments	29,268	30,516	32,000*
Number of Prints in the Library	9,525	10,378	11,000*
Number of Titles in the Library	5,275	5,594	6,500*
Number of Tape Dubbings Made	900	1,011	927
Number of Tape Masters in Laboratory	800	1,046	1,230
Total Receipts	\$177,299.09	\$185,267.74	\$216,191.66
Total Business Transacted	\$187,333.87	\$195,980.65	\$225,705.84

* Estimates

AUDIO-VISUAL EXTENSION SERVICE
Biennial Report Statistics 1963-64

	1962-63	1963-64
Number of Communities Served	2,802	2,900*
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Number of Shipments	20,516	32,000*
Number of Prints in Library	10,378	11,000*
Number of Titles in Library	5,594	6,500*
Number of Tape Dubbings Made	1,011	927*
Number of Tape Masters in Laboratory	1,046	1,230*
Number of Outstate Faculty Workshops	11	5
Number of Faculties Represented	11	5
Number of Schools, Libraries, Industries Visited	165	75

* Estimates

Future:

1. Space large enough for expansion after the next two or three years.
2. Acquisition of new and improved tape recording equipment.

3. Investigation of new and more efficient procedures of film booking used by other large universities throughout the country.
4. Establishment of a quality control system for all films in the library.

—ERWIN C. WELKE, *director*

Center for Continuation Study

For nearly a generation, the Center for Continuation Study has pioneered in providing opportunities for men and women in many professions and fields of activity and interest to continue their education. Since its establishment in 1936 as the first residence college for post-graduate study in the United States, the Center for Continuation Study has cooperated with the appropriate departments of the University in designing and conducting special short-term courses for those who already have received general, technical, and professional education and wish particular instruction in areas of new knowledge or to re-examine principles and fundamentals.

During the biennium, the Center presented 309 courses for 20,486 registrants. In addition to the 15,879 Minnesota residents who participated in these courses, 4,607 individuals were enrolled from other states and countries. Special instruction for state, county, and municipal personnel was provided to meet a growing demand during the biennium. In this field 42 courses were offered to an enrollment of over 3,300 state, county, and municipal employees, substantially all in administrative positions. Increasing interest in such areas as mental health, juvenile delinquency control, and geriatric care resulted in 40 courses in the field of social welfare, with an enrollment over 1,900. This represents an increase of more than 100% over the previous biennium in this area.

These courses originated chiefly through suggestions made by University faculty, members of community groups, or professional organizations who discerned needs for and the implications of clarification and discussion of current developments in specific fields. In response to these needs during the two years the Center has presented courses in approximately 24 new subject areas. Among the more significant were the Institutes on Information Retrieval, primarily for librarians; Higher Education and the Married Student, which was concerned with the housing and living accommodation of the married student and his family in colleges and universities; Institute on Special Considerations in Group Work with the Handicapped; Creativity in Education; Institute on Community Action for Youth; the Minnesota-Dakotas American Assembly on the United States and Latin America; and the Modern Language Conference for High School Students and Their Teachers.

The Center will continue to seek to identify new areas of need in continuing education and to develop programs to meet those needs. Modern Mathematics, Human Genetics and Public Health, Population Problems, Cross-Cultural Adaptions, and Space Age Engineering are but a few of the areas in which the Center is planning courses for the next year.

The greatest single need in the Center for Continuation Study is that of space. As enrollments at the University continue to increase dramatically, pressures on building space mount. More and more the Center will have difficulty in finding space in which to present its meetings.

As the demands placed on the Center for increased service to the people of the state continue to mount, the space problems become virtually intolerable. The problem was recognized as early as 1960 when plans were developed that would have provided for the addition of one floor and remodeling of existing space so as to provide increased meeting and dormitory facilities. More recently these discussions were renewed, and, in December of 1963, Mr. Winston Close, advisory architect, developed an expansion proposal that called for construction of an addition that would house dining facilities and office and meeting spaces. It was proposed that this addition be constructed above the present Continuation Center garage. The proposal would have made possible the kinds of meeting space that are in critically short supply at the present, as well as office space that is in equally short supply. Cost of the construction was estimated at \$450,000.

In discussions with central administration, it was pointed out that a request of this size would have little chance for success in the 1965 request for building funds, and instead plans were developed for a minimal plan of rehabilitation that is being proposed to the 1965 state legislature. This is the last item in the list of rehabilitation requests, and reason would indicate that it has little chance for success.

Even should this stop-gap effort be successful, it will serve in a very limited measure to meet these needs. Serious consideration must be given to

CONTINUATION COURSES AND INSTITUTES
NOVEMBER 13, 1936 TO JUNE 30, 1964

	1936-1963	1963-1964	1936-1964
Number of Courses	2,824	149	2,973
Number of Registrants	170,418	10,179	180,597
From Minnesota	132,150	7,940	140,090
From Other U.S. States	36,111	2,019	38,130
From Foreign Countries	2,157	220	2,377
Male Registrants	113,871	7,521	121,392
Female Registrants	56,547	2,658	59,205
Number of Faculty	46,408	2,258	48,666
Course Hours	83,351	3,673	87,024
Course Days	14,477	646 $\frac{1}{4}$	15,123 $\frac{1}{4}$

ATTENDANCE AT TYPES OF COURSES

Type	1963-64				Cumulative 1936-64 Total			
	No. of Courses	No. Reg.	%	Avg. Reg. Per Course	No. of Courses	No. Reg.	%	Avg. Reg. Per Course
Medical	16	1,161	11.5	73	488	26,010	14.4	53
Educational	10	1,026	10.1	103	360	25,521	14.3	71
Technological	16	1,726	17.0	108	179	23,166	12.8	129
State-Municipal	20	1,848	18.2	92	292	19,992	11.1	68
Public Health and Hospital Service	9	709	6.9	79	262	17,151	9.5	65
Commercial	7	464	4.5	66	227	14,782	8.2	65
Social Welfare	22	1,160	11.4	53	228	12,982	7.2	57
Nursing	10	615	6.0	62	177	11,923	6.6	67
Civic and Cultural	11	622	6.1	57	176	10,419	5.8	59
Dental	18	327	3.2	18	371	6,862	3.7	18
Labor	7	334	3.3	48	80	6,200	3.4	78
Legal	2	131	1.3	66	40	2,738	1.5	68
Pharmacy	1	56	0.5	56	25	1,367	0.7	55
Misc.					68	1,484	0.8	22
Total	149	10,179	100	68	2,973	180,597	100	61

CONTINUATION COURSES AND INSTITUTES

	1960-62	1962-64	1936-64	% or Average
Number of Courses	310	309	2,973	
No. of Registrations	20,365	20,486	180,597	100
Minnesota	15,232	15,779	140,090	78
Other U.S. States	4,753	4,298	38,130	21
Foreign Countries	380	409	2,377	1
Male	15,182	14,482	121,392	67
Female	5,183	6,004	59,205	33
Number on Faculty	5,066	4,686	48,666	16
Course Hours	8,069 $\frac{1}{4}$	8,356	87,024	29
Course Days	1,265	1,392	15,123 $\frac{1}{4}$	5
Total	60	The average attendance per course was 60 persons. Of these, 47 came from the State of Minnesota, 12 from other states and 1 from a foreign country.		
Minnesota	47			
U.S. States	12			
Foreign	1			

BIENNIAL ATTENDANCE BY TYPE OF COURSE 1936-1964

	Registration			Average Attend- ance Per Course
	No. of Courses	Attend- ance	Per Cent	
Medical	438	26,010	14.4	53
Educational	360	25,521	14.3	71
Technological	179	23,166	12.8	129
Public Health and Hospital Service	262	17,151	9.5	65
State-Municipal	292	19,992	11.1	68
Commercial	227	14,782	8.2	65
Social Welfare	228	12,982	7.2	57
Nursing	177	11,923	6.6	67
Civic and Cultural	176	10,419	5.8	59
Dental	371	6,862	3.7	18
Labor	80	6,200	3.4	18
Legal	40	2,738	1.5	68
Pharmacy	25	1,367	0.7	55
Kenny Technique (For Technicians and Nurses)	38	537	0.4	14
National Defense	6	506	0.2	84
Kenny Technique (For Physicians)	24	441	0.2	18
	2,664	160,111	100.0	60

a major building program if the Center for Continuation Study is to meet the needs of the people of Minnesota in continuing education.

Hand in hand with the expansion of services will be the need for additional personnel. These will be added as space and funds permit.

Additionally the Center staff will make increased use of University facilities and statewide public facilities in expanding the level of services provided.

—FRED E. BERGER, *director*

Correspondence Study Department

The Correspondence Study Department was established to provide educational opportunities to those unable to attend classes on campus. The educational services are available without regard to previous educational experience or geographical location. The more than 330 courses are used by students working toward college degrees, teachers seeking professional certification, talented and other high school students needing additional intellectual activity or expecting to complete requirements for graduation, employees concerned with occupational advancement or retraining, military personnel continuing or initiating an educational program, and businessmen, housewives and others seeking intellectual stimulation.

The Department has just completed a record biennium. The 13,692 class enrollments accepted from approximately 11,200 individuals is the highest total enrollment for a biennium, more than eight per cent higher than in the 1960-62 biennium. The total active registrations for the current biennium is approximately 24,200. The 7,092 registrations in 1964 were the second highest yearly enrollments since the department was organized in 1913. This is a 7.5% increase over the previous year and nearly 129% over 1954. If the same increase rate continues for the next decade, the Department will have an annual course enrollment of more than 16,000.

Under the auspices of the Minnesota National Laboratory, the Department has assisted in the development and use of "Programmed Correspondence Courses in Algebra and Geometry for Teachers." During the first experimental year, 1963-64, about 150 teachers participated. The materials will be evaluated and rewritten in 1964 and will be offered again for the 1964-65 term.

The Tuition Assistance Fund continues to provide tuition-free enrollments for nearly 100 selected individuals confined to Minnesota correctional institutions. The Fund is supported by contributions from state citizens. The Governor and other state officials have commended the Department in establishing this fund, in providing certain administrative services, and in encouraging continuing education as a part of the state correctional rehabilitation program.

With the generous financial support of the people of Minnesota, this important use of correspondence instruction will be continued.

The Department has been co-operating with the Minnesota State Department of Education and the Minnesota Counselors Association to evaluate the high school correspondence program. The State Department has modified regulations extending the use of correspondence courses to high school students unable to attend classes in school. Currently the Minnesota Counselors Association is surveying the state to determine the use and application of the correspondence method in relation to "dropouts," retention of students, curriculum enrichment, and the superior student.

In cooperation with the Correspondence Departments at the Universities of Iowa and Wisconsin, courses in Geography of the United States and Canada, and Geography of Latin America have been added to Minnesota programs. The impetus for such inter-institutional course development originated from the Committee on Inter-institutional Cooperation, an organization of the Big Ten institutions and the University of Chicago.

With the appointment of an Assistant Director as of September 1, 1964, the Department hopes to continue work on the following projects and ideas:

1. Continue to explore with the Commission on College Physics the development of advanced correspondence courses in physics. The Commission has requested such courses.
2. Explore with the Committee on Inter-institutional Cooperation the possibility of graduate level courses in several subject matter areas, particularly mathematics.
3. Expand the Department's reach to other countries, particularly in Latin America. The project has been roughed out either to re-write the correspondence courses in Spanish or to develop an exchange program whereby Latin American educational institutions could send individuals to the University to learn about correspondence study and other extension activities. These ideas will be further explored with Dr. W. M. Myers, Dean of International Programs.
4. Continue planning with the Department of Agricultural Short Courses to develop one or more programs that would combine correspondence instruction with a short course or institute. A course for seed dealers is being developed.
5. As a research project, identify able men and women students and work out a cooperative educational program, individually constructed to meet their specific needs. This project would require assistance from all of the Division departments as well as cooperation from the academic chairmen and staff. A variety of instructional methods could be combined to provide the best education for the able student.
6. Develop a project in the use of English as a foreign language, perhaps with the cooperation with the University of Michigan or other universities and the National Association of Foreign Students' Advisers. One or more courses may be extremely helpful to foreign students prior to study in the United States in assisting these students when language problems seem to handicap their scholastic achievement.

Some progress has been made by adding courses for in-service teachers and by planning courses from the St. Paul Campus. However, additional courses are needed; some of the existing courses should be revised; and audio-visual aids should be incorporated into Education courses. There is need to work more directly with the Center for Programmed Learning to determine its usefulness in correspondence study.

Even now additional personnel and office and storage space are needed. If the enrollment increases proportionally in the next ten years, the Department will be in desperate need of additional space. In preparation for such an eventuality, the Department should make a study of present quarters and do whatever remodeling necessary to improve office space for administrators and clerical staff and materials.

—F. LLOYD HANSEN, *director*

Department of Evening and Special Classes

The Department of Evening and Special Classes makes available classroom programs of the University to those who are unable to enroll in regularly scheduled day-school classes. The most important areas of service are credit and noncredit courses offered to those who are working toward academic degrees, to those who wish to improve their levels of competency in their areas of employment, and to those who wish only to engage in further study for the pleasure they find in it. Emphasis is on courses at the collegiate level.

During the biennium enrollments in the Department of Evening Classes experienced dramatic growth. In the first year, 18,179 students enrolled in the more than 600 late afternoon and evening classes offered by the Department. Total class enrollments were 32,764. Final figures on the number of students enrolled during the second year of the biennium are not available at this writing, but total class enrollments were 36,097, an increase of 15.8 per cent over the first year of the biennium. Of these, recent high school graduates constitute an increasing percentage, although the major groups served by the Department continue to be adults who are interested in continuing education, whether toward degrees or for self-improvement alone.

The greatest part of these offerings is in the Twin Cities area, with by far the majority being enrolled on the Minneapolis campus. Other instruction centers in the Twin Cities are those on the St. Paul campus, the St. Paul General Extension Center in downtown St. Paul, and the Northwest Suburban Extension Center in the Robbinsdale Senior High School. Out-state, the Duluth Extension Center serves the Range communities, and the Morris Extension Center at the University of Minnesota, Morris, serves west central Minnesota. Other communities throughout the state are served to a lesser degree, with Rochester offering one of the most rapidly developing programs.

Each year larger numbers of students seek admission to degree programs. Although not all of them are admissible, the academic quality of those whose past records are available to the Department appears to be rising.

Both graduate and undergraduate degree credit classes are offered to increasing numbers of part-time students not regularly enrolled in daytime programs. These additions, of course, are made only with approval of the academic department concerned. The greatest concentration of effort has been in the Twin Cities area. The second greatest effort has been in the Duluth-Range area. Service in Robbinsdale, Morris, and Rochester was begun during the biennium.

Each year the list of degree credit offerings on both the graduate and the undergraduate level is expanded. Advice and counsel of the subject matter department concerned is heavily relied upon in selecting courses to be offered.

The numbers of certificate credit courses is declining as more and more departments permit the teaching of degree credit classes. Nevertheless, the Department of Evening and Special Classes stands ready to develop such classes as the need arises. This planning is done with the advice and cooperation of the appropriate subject matter department.

During the biennium new areas of special classes have been added at Rochester and at the 3M Company. Special courses are set up at the request of business, industrial, and other groups, and at the request of Evening and Special Class students. One form of these is the short course, many of which are presented in the areas of parent-child development, educational techniques, and industrial relations.

The Duluth office of the General Extension center is located in downtown Duluth. Most of its classes meet on the Duluth campus. In addition to evening classes, the Duluth office serves other departments of the General Extension Division: Correspondence Study, Center for Continuation Study, Audio-Visual Extension Service, Minnesota Plan for the Continuing Education of Women, and others with a concern for the Duluth area.

The major activity of the Duluth office is University evening classes offered in Duluth and northeastern Minnesota. Most of the faculty is drawn from the University of Minnesota, Duluth, academic staff, and the superior

quality of instruction compares favorably with day-school classes. The evening class program, while not as complete as the program on the Minneapolis campus, is still extensive enough so that students can earn a liberal arts degree entirely in evening classes. Many do earn degrees in evening classes, although the majority of those earning degrees complete their work in day-school classes. This is particularly true of teachers who do a great deal of their work in summer school.

The program at the Morris Extension Center is still largely experimental, with course offerings and enrollment satisfactory but not rapidly increasing because of the largely rural character of the population, not accustomed to traveling to the campus at night. The program will be continued in the immediate future, subject to continual re-evaluation.

The Northwest Suburban Extension Center, located at Robbinsdale Senior High School, is experiencing a remarkable expansion, so much so that it is rapidly outgrowing the available facilities. In 1962-63 there were 1,146 class enrollments in the center. In 1963-64 enrollments totaled 1,962, an increase of 71%. Course offerings, instructors, and registrations have been expanded each year at an ever-accelerating pace. Additional facilities must be secured if the program continues at its present growth rate.

A separate report has been submitted for the St. Paul Center, but the report of statistical data is contained in the Evening and Special Classes report since that budget includes the St. Paul Center.

Workers' Education Classes, under Martin Duff and Walter Uphoff, suffered substantial losses in both the 1962-63 and 1963-64 academic years. The future of this program may be contingent upon more realistic fee schedules and more broadly-based enrollments.

With the dramatic increase in demands for higher education a rapid increase in evening and special class enrollment seems certain. Specific future plans include:

1. Discussions of a two-year associate degree terminal program for engineering technicians. This program has special significance for the Twin Cities area. Every fact-finding Presidential committee has urged that all necessary steps be taken to fill this vital gap in our technical training.
2. A two-year associate degree terminal program in police training. The need for such a training program need not be debated; it has been contemplated and discussed for years.
3. Examination of the many areas in which needs for continuing education are now not met.

As the demand for its services increases, there will be a need for commensurate increase in the numbers of administrative personnel available to the Department. In the area of counseling all possible counseling and record-keeping for degree candidates should be shifted to college offices, particularly in Liberal Arts, Business Administration, and Education, asking both Liberal Arts and Business Administration to keep some evening hours, by appointment, throughout the year. Testing facilities for students wanting personal and vocational counseling should be arranged with the Student Counseling Bureau so as to be available to evening students.

The Duluth Extension Center, bearing the same relationship to the Duluth campus as the main offices of the General Extension Division bears to the Minneapolis campus, feels that it would be to the advantage of both the University of Minnesota, Duluth, and the Extension Division to have its offices on the Duluth campus. It would be more convenient for the necessary conferences between advisers and advisees. It would also be more convenient for the manager, Professor Gilbert Remington, who must keep in touch with the Extension Division department heads and with University of Minnesota, Duluth, administrative officers. Most Duluth extension classes meet on the Duluth campus at the present time. The facilities of the Duluth campus could then, in addition, be utilized by the Center for Continuation Study, where the Duluth summer climate would be a great asset. To some extent this is

now being done. Since the lease on present downtown quarters expires in 1965, that would seem a good time to make the move.

—ALBERT M. FULTON, *director*

EVENING AND SPECIAL CLASSES

1962-1964

	1962-63	1963-64	% of Increase
Minneapolis-St. Paul-Robbinsdale			
General Classes	15,399	18,426	19.65
Business	6,445	7,277	12.90
Engineering	4,366	4,455	1.12
Off-Campus	799	970	21.40
Duluth and Area	3,040	3,571	17.46
Summer Session	354	546	54.23
Grand Total	30,403	35,205	15.79
Increase over previous	+1,757	+4,802	
Number of short courses given	65	28	-56.92*
Number of short course registrations	2,361	892	-62.22*
Number of Instructors	557	646	15.97
Number of Classes	1,078	1,132	5.00
Number of Individuals registered	18,179	21,693	19.33
(according to Admissions and Records)			

* Reduction in the number of short courses and short course registrations is due to their reclassification into the various categories above.

EVENING AND SPECIAL CLASSES

Enrollment Statistics, 1963-64, for Minneapolis, St. Paul, Duluth, Morris, Northwest Suburban Extension Center:	1962-63	1963-64	% of Change
Minneapolis	22,940	25,517	+11.23
St. Paul	2,238	2,822	+26.09
Duluth and Area	3,040	3,571	+17.47
Morris	164	161	-1.83
Northwest Suburban Extension Center	1,032	1,779	+72.38
Additions or resignations of faculty:			
New Staff			
Returning Staff			
Total			
1962-63	206	351	557*
1963-64	213	433	646*

Faculty attrition from 1962-63 to 1963-64 = 124.

Faculty addition from 1962-63 to 1963-64 = 213.

* Totals do not include lecture series instructors.

Lecture Series Staff: 1962-63 = 54
 1963-64 = 59

Percent or number of increase in the number of undergraduate and graduate level credit offerings:

	1962-63	1963-64
0-99	531	520
100-	130	132
	661**	652**

** Figures do not include short courses and lecture series.

Liberal Arts Program

The Liberal Arts Program undertakes experimental programs geared to men and women of the community whose thirst for knowledge in the liberal arts continues throughout life. Excellence of programs is of primary concern; size of audience is secondary. The goals of the Liberal Arts Program are as follows:

1. To build closer relationships between General Extension and the College of Liberal Arts.

2. To attract an audience not served by professional and sequential courses.
3. To enrich and broaden community leadership and judgment.
4. To provide both teaching faculty and administration with opportunities to experiment in curriculum and teaching methods.
5. To produce intellectual excitement.

Basic to the program is a degree of flexibility that is invaluable and must be preserved if at all possible.

The Neighborhood Seminars are informal lecture-discussion sessions for at least 16 persons conducted by qualified faculty members. The groups meet for approximately eight two-hour sessions (weekly or bi-weekly) in the homes of members, or in a convenient school or church. Participants are expected to read specially assigned materials, but no papers or examinations are required. Courses are non-credit, and there are no prerequisites. Any subject of particular interest to a group for which the University has an informed and interested faculty member may be studied. Subjects of study include those in the humanities, social sciences, or the combination of several fields brought to bear on a single issue of public affairs or cultural attitudes. Recent seminars have included: India and Pakistan, Comparative Religions, History of Political Parties, 19th Century American Literature, Primary Ideas in the 20th Century, American Goals and Values, Modern Russian History and Today's Poetry, Painting, and Music.

Liberal arts seminars can be hand-tailored for professional groups to fit an educational need in a combination of subjects or in a specific area. Past courses of this type have been planned for nurses, social workers, doctors, and men and women in business. Fees depend upon the intensity and length of the course.

Seminars especially designed for adult women are offered as part of the Women's Continuing Education Program, known as the Minnesota Plan, and are discussed under that section.

Patterned after the seminars for women, seminars for men have been developed recently. This year eight all-day Saturday sessions were offered in the Continuation Center on the University campus on the subject "Ideas in America." This experimental seminar, designed to fit the schedule and the interests of the employed man, examined important concepts in American society. Faculty from the natural and physical sciences, the social sciences, and the humanities analyzed ideas underlying the particular personal, social, and political structures of the United States. Several short analytical papers were required to supplement the assigned readings.

Each year the Liberal Arts Program brings outstanding experts to the Twin Cities for discussions of subjects of general interest not covered in depth in regular university curriculums. Series presented included: "Folk and Jazz—Music of the American People"; "The Dark Ages"; "Horizons Series," co-sponsored by the Medical School (fall series on the sciences, spring series on "Western Man's View of Himself"); "15th Century England and France," and "Inca, Aztec, Maya."

In addition to the above specific activities, the Liberal Arts Program was involved in consultation with the Center for Continuation Study program, Correspondence Study, Evening Classes, the World Affairs program, as well as engaging in community public relations and speaking engagements.

The Liberal Arts Program should become increasingly concerned with the part-time student, whoever he might be and whatever his age. Counseling geared to his problems, and admissions and credit transfer procedures designed with him in mind should be developed. Programming should become more realistic with respect to time schedules. The Program should concern itself with courses worthy of upper division and graduate credit, whether those courses carry credit or not. There should be a field staff concerned with all subject matter areas so that the state could be served more adequately. In addition, there should be more cooperation between the University and other educational institutions to produce truly flexible educational programs.

Liberal Arts should become as central to part-time learning as they are to full-time education. There is need for continuing interest in experiment within the Division and a recognition of this experimental potential by the teaching faculty.

The director of the Liberal Arts Program should hold a joint appointment in the College of Liberal Arts.

The Liberal Arts Program ideally should become known as that part of the University designed for individual growth, not mass training. The diversity of people, not their similarity, should dictate programming.

As the Liberal Arts Program has increased in scope and participation, staff needs have failed to keep pace. It is hoped that a person will soon be found to take administrative control of this department, thus freeing the director for those things for which she has unique talents: planning and development of programs. Additionally there will be the need for staff to serve the new administrator.

A problem here is that these programs are costly. It may very well be that additional support funds will be required if the developmental part of the program is to remain strong.

—MRS. ELIZABETH L. CLESS, *director*

LIBERAL ARTS PROGRAM—REGISTRATIONS

	1962-63	1963-64
Liberal Arts Seminars	234	282
Neighborhood Seminars	197	247
Special Seminars	0	109
Total registrations all courses	431	638
	(a 48% increase)	
Lecture Series	508 (2 series)	454 (1 series)
2 Horizon Series Lectures	250	(none given)
(1 series of 3 in the fall and 1 series of 5 lectures in the spring)	(estimate of average attendance—no charge for lectures)	

Department of Mortuary Science

The Department of Mortuary Science has as its obligation the preparation of students for continual advancement of the profession through higher education and the careful selection and preparation of those who choose the profession. The Department is aware of its increasing responsibilities in the field of mortuary education and of its service to the professional community.

For the biennium ending June 30, 1964 the following enrollment information is available:

Year	Students	% Minn.	% Out of State	Degrees Conferred
1962-63	152	59.0	41.0	54
1963-64	154	54.6	45.4	48

For the past several years non-resident enrollment has increased almost 12-15% in proportion to total enrollment.

During the 1962-63 academic year, two national scholarships were awarded for the first time to students in the department. They were granted by the American Board of Funeral Service Education for nine academic quarters. In addition, \$1,300 in scholarships were awarded. During the 1963-64 year, scholarship awards were increased to almost \$2,000.

The department continues to operate with an instructional staff of twelve. During the past academic year, four were full-time staff members, and nine were part-time instructors. Of the part-time instructors, seven were full-time instructors in other University departments. There were two civil service staff members, a full-time senior secretary, and a part-time clerical assistant.

Each year the department has upgraded its program by (1) an increase in the level of instruction, (2) more critical selection procedures for admission, (3) strict enforcement of probationary scholastic procedure and (4) intense and detailed counseling programs.

During the biennium, three projects were studied and developed. The current revision of curriculum has been finished and will be in effect the fall quarter, 1964. For the first time this summer, an institute for post-graduates (a two-week program) will be sponsored in cooperation with the National Funeral Directors Association. The department is currently revising the clinical instruction program; it should be completed before the fall quarter, 1964. In March, the department and the Center for Continuation Study co-sponsored a two-day symposium for graduates in the five-state area. This 1964 annual Mortuary Management Institute recorded one of the largest registrations ever.

All department efforts are being directed toward the development and implementation of a baccalaureate degree program, which would be the first offered by any university. A study has been made concerning a contractual program with bordering state universities; their students would be accepted by the department for the professional year of the curriculum (approximately four quarters). This program has been approved by the central administration.

Future programs of basic research and postgraduate offerings are being considered.

—ROBERT C. SLATER, *director*

Municipal Reference Bureau and League of Minnesota Municipalities

The Municipal Reference Bureau (established in 1913) serves as the University division for student reference work in the field of municipal government and as the headquarters of the League of Minnesota Municipalities. As such it has for 50 years provided virtually every community with invaluable assistance. The Bureau and the League work in close coordination to provide municipal information and to extend research facilities to government officials throughout the state. They serve the community by maintaining an up-to-date library, preparing and issuing new reports on municipal practices and current problems, and by collating up-to-date material through surveys of their members.

During 1963, the Municipal Reference Bureau/League celebrated its 50th anniversary of service to the state. The theme "Fifty Years of Progress: Prologue to the Future" dominated the annual convention at Mankato. The second largest registration in the history of the League was recorded: 853 delegates from 142 municipalities.

Regional meetings were also conducted annually. During 1963-64, 16 meetings in 287 municipalities were attended by 1,649 delegates. The Municipal Reference Bureau/League is constantly experimenting and improving the regional program presentations since these meetings usually are attended by almost twice as many officials as the annual convention. These meetings reach more officials than comparable programs in any other state.

In 1962, the Municipal Reference Bureau/League established an award in honor of C. C. Ludwig, Director from 1935 to 1958. The C. C. Ludwig Award is presented annually to an outstanding municipal official in Minnesota.

In preparation for their 50th anniversary, the Municipal Reference Bureau/League prepared a history of the organization which was featured in newspaper and magazine articles. October 11, 1963 was proclaimed by the Governor as Municipal Government Day. Celebrations were planned in various parts of the state which paid tribute to the founding of the Municipal Reference Bureau/League and which focused attention on the importance of municipal government.

As in previous years, consulting service by staff members was available either in the League office or in the municipalities concerned. Municipalities have indicated great appreciation for these services. The close collaboration with state departments and semi-official agencies continues with willing par-

ticipation by these groups in the League's regional meetings, consultation clinics at annual conventions, and on League committees.

The Municipal Reference Bureau/League and its library were moved to the Social Science Building on the University's new West Bank Campus in May, 1964. The new facilities, all but two rooms on the third floor, provide better office and conference arrangements, improved organization and presentation of services. These facilities are adequate for present operations of the League.

Field service activities were much curtailed from November to March following the resignation of Paul Haugen but have been resumed at an increased rate. Since late March, 1964, LaVern Johnson, field representative for the League, has seen 351 officials in 146 municipalities, traveling 4,700 miles throughout the state.

Annually the Information Service co-ordinated by the Municipal Reference Bureau/League answers approximately 3,000 inquiries. This service is considered more comprehensive than in almost any other state. During the past year, 2,847 inquiries originated with 488 municipalities and 25 townships in Minnesota, and over 100 came from out-of-state. These totals represented a slight increase over the previous year's total.

The Legislative Information Service continued to prepare and circulate during each legislative session a bi-weekly bulletin concerning matters of municipal interest. Approximately 1,000 officials throughout the state receive this publication. A survey conducted after the 1963 session indicated that municipal officials thought highly of this service.

Membership in the League of Minnesota Municipalities includes approximately 98% of the municipal population of the state. Last year the total reached an all-time high of 672 municipalities, after the largest gain for a single year since 1955-56. In 1963, thirty-five municipalities received plaques marking fifty years of continuous League membership.

A major publication of the biennium was the long-planned *Handbook for Minnesota Villages*. This 536-page major reference work, released in August, 1963, has been enthusiastically received; 1,400 copies already have been sold. The League plans to publish revised pages periodically to keep it up-to-date. *Minnesota Municipalities*, the League's monthly magazine, continues to be improved in format and content. As a 32-page publication with an average distribution to 8,500 municipal officials and subscribers, the magazine has the reputation of being one of the best municipal league magazines in the country. Moreover, during the past year, twelve new or substantially revised reports were prepared and published; two reprints also were made available. The staff also did research for several studies which became articles in the magazine. Topic subjects included municipal safety programs, inter-local cooperation, trends in Minnesota municipal salaries, Minnesota municipal employee fringe benefits, and the need for revision of the Veteran's Preference laws.

Most of the schools for municipal officials are coordinated by the Municipal Reference Bureau/League and conducted with the Center for Continuation Study and off-campus community organizations. In 1962-63, eighteen schools were sponsored, with total attendance of 1,673; during the past year, fourteen courses registered 1,375 persons.

The Municipal Reference Bureau/League coordinated 40 one-day Civil Defense conferences under a University Department of Defense contract; 2,053 persons, approximately one-third municipal officials, attended.

With the St. Paul Division of Short Courses, a series of regional courses for town and village assessors was presented; 680 attended. The Municipal Reference Bureau/League also co-sponsored nine traffic workshops, which registered 2,100 persons.

Although most projects originated by the Municipal Reference Bureau/League rate special attention, from time to time they plan municipal government coordinated programs which are primarily experimental. One such program operated under a contract with the Ramsey County League of Municipalities. Last year the Municipal Reference Bureau/League provided that organization with research and secretarial service, thus helping to keep the Ramsey County League close to its state counterpart and able to avoid conflicts in programs and policies.

During the biennium the combined Municipal Reference Bureau/League was staffed by nine full-time and seven part-time employees, a total which included secretarial and clerical personnel.

The basis for any revision or expansion of Municipal Reference Bureau/League activities depends on several factors, primarily on further re-evaluation of its role with the University in an expanding urban society. This re-evaluation, of course, is a continual process. However, during the next biennium, the Municipal Reference Bureau/League will have for this project the quarter-time service of a competent young man otherwise occupied with the urban action program of the Upper Midwest Economic Study. Initiation of new programs depends on the conclusions of this study.

The Municipal Reference Bureau/League already realizes the necessity of other programs. Research into providing a new, comprehensive program of pre-service and in-service short-course training for various groups of officials and employees in the metropolitan area and the expansion of University Extension courses on a self-sustaining basis for regional or circuit programs will be necessary. Regional meetings for mayors and councilmen should be re-evaluated and extended to challenge these officials to "face up" to the future problems of small towns, to ethical issues, to the problems of citizen participation, and to the demands of local government statesmanship.

—ORVILLE C. PETERSON,

*Director of Municipal Reference
Bureau and Secretary of League
of Minnesota Municipalities*

Department of Radio and Television

The Department of Radio and Television has as its primary mission an extension of the University's resources through the electronic media. Specifically, the Department provides an educational and cultural program service for radio listeners and television viewers. Additionally, it operates the ever-expanding closed-circuit television facilities of the University, experiments with the educational uses of these media, and performs a public relations function for the University.

Television—Throughout the biennium the University of Minnesota continued to present television programs of significant educational and cultural value, on Channel 2, KTCA-TV.

Since 1957, the University has been broadcasting credit and noncredit courses, general cultural and informative programs over KTCA-TV to viewers in the metropolitan Twin Cities area. It is the only educational institution to use the station five days each week of the year.

Originally, all University programs were produced in studios on campus. However, since spring, 1962, University programs have been produced under contract at KTCA. Selection of program content and personnel have remained under University control. Program series presented during the biennium included *Historic America*, a nine-month survey of American history; *Arts and Dollars*, tracing the development and impact of mass-produced arts; *Town and Country*, an Agricultural Extension Service program; and *Biology*, presentation for the layman of information about the biological sciences.

But University television personnel and facilities were devoted mainly to implementing the vastly expanding project in closed-circuit television. One significant development was the first regular long-distance use of closed-circuit television in the state. Beginning in the winter quarter, 1963, lectures originating on the Minneapolis campus were sent to classrooms at Rochester Junior College. Both credit and non-credit courses were offered in history, electrical engineering, and mathematics. Since its formal beginning in the spring quarter, 1962, closed circuit television production has increased and the earlier experimental system was greatly expanded. During the 1962-63 year, 13 academic departments offered courses to 8,500 enrolled students. In 1963-64, more than a dozen courses were offered to over 17,000 students. These programs were viewed on all three Twin Cities campuses and at

Rochester. During the 1963 winter quarter, approximately 3,300 students, or 10% of the University's entire enrollment, received at least some instruction via this system, either through live programming or video tape repeats.

Several studies have been made at the University concerning the effectiveness of this teaching system. The conclusions reinforced a great many studies conducted elsewhere: (1) students learn as well or better from television as from non-television instruction; (2) certain types of instruction are improved by this method; (3) generally, those teachers whose classes are suitable for television lectures are greatly pleased with it; (4) most students prefer television lectures if given a choice between them and large lecture sections.

The video-taping of live lectures and subsequent rebroadcast will make smaller classes possible and release the teacher for more student counseling, for better lecture preparation, and for research.

The Engineering Department provided equipment and services for the operation of KUOM radio; the University closed-circuit television systems; the radio studio in Murphy Hall; the television installations in Owre Hall, Peik Hall, and Aeronautical Engineering; and the Departments of Police and Plant Services mobile equipment.

The Engineering Department has expanded the closed-circuit television system. New facilities installed in 32 rooms in seven buildings have the potential of providing programming to 2,500 students at the same time on both the Minneapolis and St. Paul campuses.

The department continued its consulting services within the University. It assisted KUMD-FM (University of Minnesota, Duluth), in facilitating full-scale production this year. It is currently consulting with the Mayo Clinic for the development of a closed-circuit television system for the exchange of information between Rochester and the general University medical group on the Minneapolis campus. The department worked with the University architect and the Department of Plant Services in planning the installation of television and radio facilities in new buildings.

The major development in television would be the implementing of the University of Minnesota Television College, a three-year developmental program. Beginning with the fall quarter, 1964, the University will offer four freshman credit courses—Biology 1 and 2; German 1, 2, and 3; Geography 1; Political Science 1A, 2A, and 3A—to students in the area served by KTCA-TV. These will carry full residence credit for those who successfully complete them. Eleven study centers will be established in high schools in the Twin Cities area to which students will report for weekly classroom discussion periods. The high schools scheduled to participate this year include Anoka, Bloomington, Brooklyn Center, Fridley, Hastings, Hopkins, North St. Paul, Robbinsdale, Stillwater, West St. Paul, and White Bear Lake.

Initially a total of 33 credit hours will be offered via two telecast lectures per week with a weekly discussion or laboratory session. Teaching assistants from the University will personally conduct the discussion periods. During the second year, sophomore-level credit courses will be offered. The enrolled students could then complete a major part of their work basic to the first two years of a University program.

The department should consider three-way closed-circuit exchanges among the Minneapolis, Duluth, and Morris campuses and should investigate closed-circuit television exchanges with other educational institutions both in the metropolitan area and out-state including state, private, and junior colleges.

The department suggests the expediting of plans for a new communications building to serve as center for all of the University's radio and television activities. Only by the most exacting allocation of space on the ground floor of Eddy Hall has the department been able to implement its current programs. More space is needed for efficient presentation of services and more space will be absolutely necessary for any expansion of activities in radio and television. The facilities currently in use were designed in 1938 for *radio only*. Since then administrative and production units for the expanding closed-circuit television system have been added.

Before any expansion program can be initiated, both administrative and financial problems must be resolved.

Radio—Broadcasting regularly since 1922, the University operates the oldest licensed radio station in Minnesota. On the air six days a week, 10:30 to sunset, KUOM (with 5,000 watts, 770 kilocycles) presents a full-range of programs of an educational, an informational, and an instructional nature.

Beginning in October, 1963, and continuing for three academic quarters, KUOM rebroadcast "The Classical Tradition" by Dr. Norman DeWitt, chairman of the Department of Classics. These lectures were first presented during 1953-54 as a significant experiment in classroom teaching, dramatizing excerpts from Greek and Roman literature which supplemented the classroom lectures. "The Classical Tradition" won the coveted Variety Show Management Award in 1954. Course outline and bibliography were supplied on request to listeners.

KUOM continued to cooperate with community organizations in presenting several varied programs. The station cooperated with the Minnesota State Medical Association in broadcasting "Doctor, Tell Me," a daily five-minute interview program with general practitioners and specialists concerning pertinent medical topics. These programs were recorded for distribution to over 40 out-state radio stations. Every Tuesday morning, members of the League of Women Voters interviewed local, state, and national civic leaders about current issues. 1964 was the 14th year for "Listen with the League," an example of KUOM's effort to involve community leaders in its broadcasting. The Minneapolis Institute of Art co-sponsored the previews of the Tyrone Guthrie Theatre productions, and in cooperation with the Walker Art Center, KUOM broadcast "The Poet Reads," a series featuring poets reading from their own works; and during the summers, KUOM broadcast principal lectures from the St. Paul Social Studies Institute: "Africa . . . Images and Realities." These lectures by outstanding scholars and diplomats concerning all aspects of African political, cultural, and economic life were originally sponsored under the auspices of the St. Paul Public Schools and the St. Paul Junior League.

KUOM planned programs in co-ordination with other University departments and organizations. "World Affairs Are Our Affairs," a series of basic information programs concerning the 28 members of the World Affairs Center, was presented earlier this year. Intermittently, the Classroom Lecture Course was broadcast: some were University credit courses with a minimum dependence on visual aids; others were lectures made available through National Educational Radio Network facilities. Two week-day programs originated from the Information Service on the St. Paul campus: "The Home-maker's Quarter Hour" and "The University Farm Hour."

For 26 years, the Minnesota School of the Air has provided educational enrichment to schools throughout Minnesota by broadcasting programs for reception by students and teachers in classrooms, supplying supplemental teacher and student guides and program tape recordings to the school systems of the state. During the biennium, the School of the Air received enthusiastic teacher and student response to its different programs for primary and intermediate grades.

Nineteen program series were broadcast with particular success. Among these were the German and Spanish language series (first produced in 1956-57), the series on art perception, the "Let's Write" programs for intermediate grades, and "It's Time for Music!" a series to increase the musical awareness of the younger listeners and to help them enjoy the wonders of music. The latter series received a First Award in 1963 from the Institute of Education by Radio-Television at Ohio State University.

The School of the Air cooperated with the Children's Room of the Minneapolis Public Library, the Youth Services Division of the St. Paul Public Library, and the Division of School Libraries of the State Department of Education in presenting "The Book Detective," a review program. It also presented previews of the Young People's Plays given by the University Theatre.

In the past two years, the sales of teacher manuals for primary grade programs has increased 226%; for the intermediate grade programs, 208%.

Tapes of School of the Air programs were made available to the National Educational Radio Network and were distributed nationally. The School has been co-ordinating plans for the development of new productions in new

subject areas for in-school and out-of-school time and for more effective extension of its services to out-state schools and radio stations. An experimental pilot series of ten special unit programs in vocational interests for students (the language arts, space, modern math), documentaries on education and teacher methods, a new conservation series, expanded "Let's Write" and "Current Events" programs, and a new series on the heritage of Minnesota are being planned.

KUOM continued to enrich the musical enjoyment and education of the community by presenting a well-balanced selection of serious music and interpretive commentary.

During the biennium, the music programming reflected the musical life of the Twin Cities metropolitan area in several ways. There were preview presentations of concerts by the St. Paul Schubert Club, the St. Paul Chamber Orchestra, New Friends of Chamber Music, the Minneapolis Symphony Orchestra, and the concerts in the University Artists Course. Dr. Donald Ferguson, professor emeritus of the University Music Department, and local guest authorities were featured on "Metropolitan Opera Previews"; these programs preceded the annual season in Minneapolis. "Concert Topics," a program of commentary and musical examples as suggested by current Twin Cities musical programs, was presented as well as interviews with visiting and resident artists. KUOM's recording of the presentation of the regional winners of the winter Metropolitan Opera auditions was made available to other local stations.

With an increase in the use of recorded music, KUOM relied upon its record library of approximately 3,000 LP discs and smaller collection of 78 rpm records, and programs from the National Educational Radio Network, Radio Nederland, British Broadcasting Corporation Transcription Service, and the Australian Broadcasting Commission. The weekly program of early recordings, "Caruso, et al.," programs of request music for holidays, and specially coordinated programs honoring musical anniversaries (Stravinsky's Festival, Wagner Festival) were continued.

KUOM continued to broadcast the significant news thrice daily without commercial interruptions. These were based on Associated Press reports, frequently supplemented by beeper phone interviews with University faculty members and others in the community, who supplied background material about current news stories. Additionally, the station broadcasted brief news summaries throughout the day and a daily five-minute roundup of University news, "University Bulletin Board." Resources for the latter program were a School of Journalism class (Radio Newswriting), the University News Service, the Minnesota Daily, and the KUOM staff.

Four days a week, KUOM broadcast "Background of the News," a program featuring news commentary obtained through the facilities of the British Broadcasting Corporation, Radio Nederland, the United Nations Radio, and the National Education Radio Network. During the year, another perspective on the news was gained by personal interviews with University faculty and outstanding Twin Cities visitors.

During the biennium, KUOM broadcast over 500 Public Affairs Forum programs. These lectures, talks, and discussions emphasized the expression of complete thoughts on fundamental issues and supplied depth-news value that could not be or was not provided on local commercial stations.

These programs, five afternoons a week, originated from various sources: University of Minnesota and Macalester College Convocations, talks given on campus and elsewhere in the metropolitan area, the tape facilities of the National Education Radio Network. On Wednesdays the Forum presented "World Affairs," a radio repeat of the University television award-winning discussion program moderated by George Grim, *Minneapolis Tribune* columnist, which featured guests from the University faculty and the community. During the summers, one evening a week, KUOM presented "Significant Speeches," rebroadcasts of outstanding Public Affairs Forum programs from the previous twelve months. These were selected for their timeliness, excellence of content and presentation, and public response to the original broadcast.

In May, 1963, KUOM broadcast the entire four programs of the Minnesota Symposium—"Ethics of Our Time"—which had been originally presented

on campus in February. During the spring 1963 and 1964, the station broadcast the Barclay Acheson Lectures—"The Anatomy of Neutralism" and "Contemporary India: Ideas and Men" respectively. These were originally delivered by visiting professors at Macalester College.

The Radio and Television Guild is an extra-curricular organization for those individuals interested in the arts of radio and television production. The outstanding activity of the Guild is the presentation of the Minnesota Theater of the Air, a weekly hour-long program. Thirteen live or taped dramas were presented each academic quarter; during the summers, the best yearly programs were rebroadcast. Theater of the Air programs have included a variety of adaptations and original scripts. Representative adaptations included works from Ibsen, Shakespeare, Robert Louis Stevenson, Arthur Miller, Shaw, Dickens, Marlowe, and Robert Penn Warren. Almost all Theater of the Air programs were rebroadcast on KSTP and KWFM in the Twin Cities. The Guild encouraged original scripts by students and faculty and has offered workshop experience in the equipment and techniques used in radio and television production.

In 1963, the Guild produced a new weekly series, "Montage," a half-hour "magazine show" on KSTP. This program featured ideas and events on campus and provided students with experience other than drama production. The Guild is planning to extend this weekly program throughout the state by making tapes available through the Audio-Visual Extension Service.

For 1964-65, the McKnight Foundation of St. Paul has offered a newly created fellowship for a half-time student administrator for the organization and production of the Guild programs.

Plans for future radio programming include the development of a discussion series using University faculty as resource persons and participants. The series would explore general issues and trends in American society and specific news issues on the world scene.

The possibility of constructing a University FM station should be reconsidered in evidence of the need for and public interest expressed in such a station. Certain types of educational and cultural services not now available through any other media would be provided.

—BURTON PAULU, *director*

St. Paul General Extension Center

The St. Paul General Extension Center serves as the registration and information office for extension programs in the St. Paul area. It offers a balanced curriculum of degree credit courses in liberal arts, business, engineering, and pre-professional subjects for the serious part-time student whose personal goal is a University degree. It also offers both credit and non-credit courses of general interest for the part-time student seeking to increase his knowledge but not striving for a degree. In addition to course work, the St. Paul General Extension Center offers special programs in cooperation with the various departments of the University to meet specific needs and interests of business, industry, labor and other cultural, scientific, and education-oriented groups.

The St. Paul Center, as an off-campus, cosmopolitan area arm of the General Extension Division, strives to present programs representing all departments of the University whose offerings are of value to the community. The Center operates in cooperation with all such departments and its activities are both parallel to and in addition to their programs as dictated by need and opportunity.

The St. Paul General Extension Center has greatly increased enrollment, increased teaching aids and student-faculty services, and has improved classroom facilities through a move into a building designed exclusively for University extension work. A broader segment of the community is now being served than ever before, through such programs as management seminars sponsored for the State Highway Department and a highly successful personnel short course in cooperation with the St. Paul Chamber of Commerce. Three educational programs are offered by the St. Paul Center: evening classes, seminars presented under the auspices of the Center for Continuation

Study, and special short courses. The special short courses are still in an experimental stage. It has been learned, for example, that the location and the time of day of the course has little to do with the number of registrants. Effective publicity has resulted in three times as many registrants for a course in Interior Design, offered at the Center and drawing participants from as far away as Red Wing, Hudson, Edina, and Minnetonka, as were registered in *The World of Music* with Dr. Frederick Fennell and *Reason, Rules, and Riddles* with Professor F. T. Benson.

A very effective yet rather simple program is anticipated during the coming year for which the manpower, space, and funds will probably be available, and for which the groundwork has already been laid. It is to be a non-credit course tentatively called "How To Be an Effective Board Member." If possible, this course will have the initial sponsorship of a number of other agencies, including the Chamber of Commerce, church groups, business and union organizations, and other educational and cultural agencies. Its impact will be a cumulative one, since it will bring together active representatives of the most influential groups in the community during the planning phase; and it will ensure a continuing pool of University extension-oriented people in the key positions of board membership in these organizations in the future. As a result, this simple program should provide long-range important benefits both to the University and the community.

Other daytime and evening non-credit courses, seminars, workshops, lecture and tele-lecture series and film series are in the planning stages for the next biennium.

The St. Paul General Extension Center needs a greatly enlarged and more active multi-purpose extension facility. One possibility is construction of a major structure adjoining the present building. This would enable the Center to function at a greater capacity on both a daytime and evening schedule. With facilities expanded the Center would hope to serve all segments of the business industrial-cultural community of St. Paul and its environs through credit and non-credit courses of varying scope, length, and methodology. Statistical data are included in the Evening and Special Classes Report.

—HAROLD J. ALFORD, *director*

State Organization Service and World Affairs Center

The Minnesota World Affairs Center is a vital educational force in community education in world affairs. It extends University facilities as they relate to world affairs to the people of the state by advising and assisting in the development of special programs and by serving as a clearinghouse of world affairs information. The Center, a council of 28 voluntary associations, is served by the State Organization Service.

The last biennium was marked by notable educational offerings to the citizens of Minnesota. This substantial program of international affairs education, research, and service was implemented and presented in many ways.

One of the outstanding programs presented was an eight-session lecture series on Law and World Politics. Abram Chayes, legal adviser for the U. S. Department of State, and John McNaughton, counsel for the U. S. Department of Defense, were key speakers. This series was co-sponsored by the World Affairs Center and Department of Evening and Special Classes in cooperation with the Department of Political Science, Law School and Coffman Union Board of Governors. About 200 individuals registered for the series.

Other programs on important world affairs subjects were the Minnesota Conference on the Common Market, the Sixth and Seventh Midwest Seminars on U. S. Foreign Policy, and the Minnesota-Dakotas Assembly on the United States and Latin America, at which Pat Holt, acting director of the staff of the Senate Foreign Relations Committee, was featured speaker.

During 1963-64 the High School Discussion Program, a variation of the High School Seminar on World Affairs, was co-ordinated with the adult Law and World Politics lecture series. Forty high school seniors from metropolitan Twin Cities public, private, and parochial schools attended an evening lecture and discussion session with the speakers.

For the past ten years, Dr. William C. Rogers, director of the World Affairs Center, has served as director of the *Minneapolis Star* Program of Information on World Affairs. The director, using WAC facilities, has assisted in the formulation of topics and selection of reading material, and has worked with KTCA-TV in programming the television series based on the Program's subjects.

During the summer of 1963, two WAC study groups traveled abroad. The director conducted a group of 15 on a foreign policy seminar around the world, and Miss Barbara Stuhler, the assistant director, led 33 on a seminar to western and eastern Europe.

The World Affairs Center continues to assist in planning and staffing world affairs programs for voluntary associations and institutions; both the director and assistant director serve as consultants for such educational programs.

Many inquiries concerning world affairs continued to be answered by WAC. Some could be answered immediately; others required depth research and consultation. During world crises, there seems to be an increase in inquiries. On request by Minnesotans traveling abroad, the Center also provided political and economic data for the countries visited.

During the biennium, two publications were edited and issued: *Highlights and Landmarks of the Minnesota World Affairs Center and Sources of Information in Minnesota on Latin America*, increasing the number of WAC-originated publications to 16. The Pamphlet Shop, the only sizeable facility of its kind between Chicago and the West Coast, has available over 1,000 free and inexpensive publications concerning world affairs. During the past two years, a total of 53,705 publications were distributed to persons visiting the Center, in answer to mail requests, and through exhibits at conferences and lectures. And every month except during the summer, the WAC publishes an activities report describing programs and people making world affairs news in Minnesota. This report was distributed to over 300 Minnesota leaders of world affairs organizations and to 100 interested individuals and groups in other states.

A long term fund-raising project was initiated in 1962. The addition of a part-time third staff member made possible a systematic inventory of Minnesota Foundations interested in world affairs and the preparation of proposals to solicit additional funds for an expanding educational endeavor. This has been done in cooperation with the University's Coordinating Council.

Occasionally modest research projects have been undertaken to determine citizen interest in and opinion of world affairs. A comparative study of Minnesota Poll opinion and "knowledgeable" opinion concerning selected U. S. foreign policy issues is in final draft preparation and is scheduled for publication later this year.

In the spring of 1963, the World Affairs Center and the State Organization Service moved to the Social Science Building on the new West Bank campus. This move resulted in a decrease of office space which has somewhat reduced the efficiency of operations.

To meet the ever-increasing and complex challenge of international affairs education in the state today, the Center realizes its continuing responsibilities and offers the following suggested programs, by no means a complete list:

1. Creation of more and intense advanced international seminars for informed state leadership groups.
2. Expansion of its activities to the smaller Minnesota communities. This expansion could be co-ordinated through the new Field Services Director of the General Extension Division.
3. Continuation and expansion of research on the world affairs audience and Minnesota public opinion.
4. Preparation of Minnesotans for foreign assignments and travel by co-ordinated program offerings in language, U. S. Foreign Policy, society and culture of foreign countries.

5. Improvement and addition of services available to member organizations.

Change of Name—Effective with the start of the new biennium a change has been made in the designation of the units in this area. The State Organization Service office remains as in the past, with Dr. Rogers continuing to serve as director. The designation of the World Affairs Center has been changed to Department of Continuing Education in World Affairs.

There is an important distinction here. The World Affairs Center, as such, is not a unit of the University. Rather, it is an organization, membership in which is held by 28 groups throughout Minnesota whose principal concerns are with matters of world affairs.

If the Department of Continuing Education in World Affairs is to demonstrate by its programs and activities that it is indeed the best university-based world affairs adult education operation in the country, three things are necessary: more financial support for programs, additional personnel, and more office and record storage space.

At present a substantial part of the budget for the Department is provided by income from the Department of Evening and Special Classes. These funds should be provided from regular University resources.

—WILLIAM C. ROGERS, *director*

Women's Continuing Education Program

The Minnesota Plan for the Continuing Education of Women was established at the University of Minnesota in 1960 with the aid of a grant from the Carnegie Corporation of New York. It is a pilot project primarily for state and land-grant universities in the field of continuing education. An additional two-year grant from the Carnegie Corporation was received in 1963.

The Minnesota Plan is an experiment in educational timing and method, as well as an advisory and coordinating service concerned with the broad range of educational problems of women. Its purpose is to determine the educational needs of today's women of any age and to develop ways to meet these specific needs. Its objectives are twofold: the return to the nation's paid and unpaid manpower pool one of its most valuable assets—its educated women—whose developed skills might otherwise become rusty and underused during their mature years; and to increase the personal intellectual enrichment of women by exposing them to new educational interests, either to complete a degree, earn another or to expand their personal, professional, and civic competence through further education.

To meet its objectives, the Minnesota Plan takes advantage of all educational opportunities for women available at the University: evening classes, correspondence study courses, adult special day classes, courses on television and radio, professional refresher courses, neighborhood seminars, special programs designed to fulfill particular educational requirements, and regular day classes in a degree program.

Two Minnesota Plan counselors, Miss Dorothy Loeffler and Dr. Cornelia McCune, are available at the Student Counseling Bureau. These counselors, familiar with the problems of the full- or part-time woman student returning to college, give individual help, explaining University opportunities available and specific requirements, and helping to decide on the curriculum needed to attain a woman's goals. They also make referrals for advice and information to others on the campus and to appropriate off-campus experts and institutions.

Liberal arts seminars ranging in subjects from literature to physics are designed for the mature woman who wants to sharpen her critical thinking and to renew academic discipline. These specifically designed seminars are meant to be a first step back to more intensive and objective study, whether pursued independently or under University guidance. In every seminar, assigned reading and periodic papers are required from each registrant so that she may be aware of her growing competence and understanding. No examinations are given, but anyone desiring credit must write a satisfactory

long paper in addition to regular course requirements. Seminars meet on both the Minneapolis and Duluth campuses every other week from October to June. Registration is limited to 20 Minnesota Plan members per seminar.

An honors seminar, "The Educated Woman in the United States" (Family Life 50s), open to upper-class undergraduate University students, is available to Minnesota Plan members. Basic information regarding woman's contribution to the home, community, and the world of work is examined in the seminar. Top experts from the fields of education, psychiatry, sociology, child development, home economics, and economics discuss topics such as manpower needs, sociological trends, family roles, and psycho-genetic development.

Several practical helps are given to Minnesota Plan members. Mrs. Barbara Mantini of the Bureau of Recommendations, 102 Burton Hall, is the Plan's placement consultant. All members are notified by Mrs. Mantini, who maintains her own mailing list and sends out bi-weekly bulletins on current job openings. Child care service is available for pre-school children of Minnesota Plan members attending University classes. This cooperative nursery is held at Andrew Presbyterian Church, 729 Fourth Street S.E. Small scholarships, averaging approximately \$100.00, are available to Minnesota Plan members attending University classes. For the year 1964-65 twenty scholarships have been awarded. *Guidelines*, a quarterly newsletter, is mailed to Minnesota Plan members, to keep them in their endeavors by publishing the achievements of other Plan members.

Recognizing the significant role that volunteer activities play in the lives of many women, the directors of the Minnesota Plan have sought ways to integrate these activities with intellectual growth and development, and with eventual professional progress where it is appropriate. Counselors are prepared to work out individualized kinds of educational programs both for the woman who is active at the policy-making level and for the young woman who looks forward to an eventual profession. The integration of volunteer work with appropriate courses can make each endeavor more meaningful and stimulating.

Educators from all parts of the nation have requested information about the Minnesota Plan and advice about initiating similar continuing education programs in their own localities. Mrs. Elizabeth Cless has visited a number of campuses to consult with administrators, faculty and community leaders interested in such programs for women. There has also been a steady flow of representatives from colleges and universities to the University to consult with Minnesota Plan staff members, as well as requests by mail both for general information about the programs and specific advice on certain problems.

Since the Minnesota Plan is an experimental program, there is continuing effort to identify the educational problems peculiar to the life patterns of women and to enlist the help of University faculty in adapting parts of the established educational curriculum to those patterns. As indicated in the section on the General Extension Division's Liberal Arts Program, this arm of the Division serves the College of Liberal Arts as a laboratory for experiment in both educational content and method. The Minnesota Plan women are eager, verbal, and effective as students for these experiments (although the results are expected to be helpful throughout continuing education, not segregated for the benefit of a single sex).

Mrs. Schletzer, the Minnesota Plan's coordinator, while continuing her important work with the University's undergraduates and her supervision of the Minnesota Plan office and counselors, will spend much of 1964-65 gathering and collating data on Minnesota Plan participants in preparation for the final definitive report to the Carnegie Corporation.

Mrs. Cless, while continuing her consultative role with other universities, will attempt a projection of the implications for all of higher education of the findings of the Minnesota Plan pilot project. (This is being done at the suggestion of the University Press.) Experimental programs for women in areas other than, but in addition to, the College of Liberal Arts, will also remain her responsibility.

In 1963 the University committed itself to a gradual assumption of costs of the Minnesota Plan for the Continuing Education of Women. This assump-

tion of costs was begun in 1963-64, will accelerate in 1964-65, and be completed by July 1, 1965, on the conclusion of the Carnegie Grant.

Until this time the Minnesota Plan has been administered by a committee composed of five Deans and the two co-directors. Until July 1963, Dean E. W. Ziebarth chaired this Administrative Committee, and his office was responsible for the budget. Assistant Vice President Donald K. Smith succeeded Dean Ziebarth as the Committee chairman and the budget operation was moved to Mrs. Schletzer's office. Vice President Smith has recommended that in the interests of efficiency administrative responsibility for the Minnesota Plan should be moved into the General Extension Division with a cooperative arrangement with the Student Counseling Bureau so that the counselors can remain under Dean Williamson's supervision. Continuing discussions toward a resolution of administrative responsibility are of an order of high priority.

—MRS. VERA SCHLETZER,
coordinator and co-director;

—MRS. ELIZABETH CLESS,
co-director

GENERAL COLLEGE

An emerging system of state-supported junior colleges, expansion of existing state colleges and the prospect of a new one, establishment of a University campus at Morris, and internal reorganization of the University's colleges in the Twin Cities—all of these are facets of the changing pattern of higher education in Minnesota. Associated with the change—in fact, its primary cause—is the record number of students who are enrolling in all of Minnesota's colleges. It is sobering to reflect that today's record enrollments promise to be exceeded again and again in the course of the next few years. It is even more sobering to realize that in spite of our crowded campuses, the needs of even greater numbers of young people are not now being met by our colleges. Only two or three of every ten of our high school graduates are going on to college, and only a fraction of those who do matriculate eventually graduate. Not long ago, Vice President Wenberg said:

Unquestionably there is need for more college graduates, for more professional personnel, for more doctors, dentists, teachers, engineers, social workers, librarians and on and on. That isn't the point. The point is that in some kind of preoccupation with prestige training, we have failed to set in motion the machinery that will upgrade the vast middle ground of talent which this nation also needs, and for which there is an even greater reservoir of talent than for college graduation—almost eight out of every ten youngsters.

Between 1952 and 1962 there was a 25 per cent drop, an absolute decrease, of 5½ million jobs for men and women with less than ninth grade education. At the same time, there was an increase of 40 per cent in jobs requiring one, two, or three years of training beyond high school.

Without depreciating in any way the need for college-trained personnel, this middle ground represents the occupation group to which I would like to turn our attention. . . . In my estimation, this group and the kind of training this middle group requires represents a great missed opportunity in Minnesota's educational scene.

In making these remarks, Mr. Wenberg was stating widely held views. President Kennedy last year spoke about the need to provide appropriate post-high school education for the student who would never be a candidate for a four year degree. The state of Massachusetts is creating a group of state supported junior colleges. The state of New York is pouring money into a series of technical institutes where those seeking less than a baccalaureate degree receive their training. Consideration is being given to a plan calling for a similar college-level institute to replace the University's school of agriculture at Crookston. If this institute is established, it will join the varied list of two year certificate and associate in arts programs already existing within the University. One of these programs is offered by the General College.

All of the foregoing appears to be part of a new peak of interest in the kind of student enrolled in the General College: the kind of student whose high school grades or placement tests indicate lack of aptitude for a baccalaureate degree, but who needs and wants post-high school education. For

thirty-two years the General College has served such students by offering them a non-vocational, terminal program of general education culminating in the Associate in Arts degree. The question of whether this is the best kind of program for this kind of student is, of course, always a matter of concern to the faculty, but the changing patterns and enrollment pressures already referred to have intensified that concern. During the biennium just ending, the faculty has decided to review what we have been doing, to clarify our policies and objectives, and to change what needs to be changed in the light of today's students and their needs.

The entire program of the General College today is based upon extended and continuous analyses of the abilities, interests, motives, and needs of our students. The adolescent and adult studies made by the faculty in the late thirties were pioneer ventures in this field. The most recent in the series of examinations of our students is the Five-Ten Year Study inaugurated in 1958.

The general purpose of the Five-Ten Year Study is to find out why our student comes to the University, how he likes it here, what his educational-vocational goals are, what his financial status and family responsibilities are, how long he remains in the General College, what colleges or schools he attends after leaving the General College, what kinds of jobs he has after leaving college, what courses and activities in college were most useful to him in later years, and what suggestions he has for changing the General College curriculum and its policies and procedures. The students who participated in the study at the outset, in 1958, are to be questioned and interviewed again at two five year intervals after leaving the college.

In 1962, after this study was well launched, the dean appointed a faculty educational planning and policy committee which was given the duty of studying the effect upon the General College of the changing pattern of higher education in the state and the gradual reorganization of the University itself. The Five-Ten Year Study is continuing under the auspices of this committee. Moreover, the committee proposes to use the Five-Ten Year Study as the first phase of a much more detailed investigation to be undertaken during the coming biennium.

This proposed intensive study will seek information about the "sales value" of a two year degree in general education, the value of liberal arts courses for all students, defensible admissions thresholds, and the level of employment attained by General College graduates. The prospect of obtaining funds from the Graduate School and from an agency of the federal government to support this research appears promising at this writing.

Simultaneously, the college is deriving great benefit from the services of a coordinator of research, a long-wished-for addition to the faculty made possible by the new position money given to the University by the last legislature. The consequences of establishing this position have surpassed our expectations. Faculty research has been assisted and extended. Problems set by the administration and affecting the college as a whole have been attacked. Studies are being made which extend beyond the classroom and the curriculum into the fields of testing, admissions, the comprehensive examination program, characteristics of segments of the student population, and investigation of ways of using machines to facilitate registration procedures, assign students to advisers, and identify those students eligible for transfer to regular University status or those who should be placed upon academic probation.

The sequence of studies of the student body, the educational planning and policies committee, the office of the coordinator of research—all of these represent ways the General College is seeking objective information to use in evaluating and improving its program. They are part of the University's attempt to close gaps in the provision of educational opportunity for all of the youth of Minnesota. To those who hold that provision for post-high school education cannot and should not be made for all young men and women who desire it, the General College points to the words of the late President Lotus Delta Coffman:

The state universities hold that there is no intellectual service too undignified for them to perform. They maintain that every time they lift the intellectual level of any class or group, they enhance the intellectual opportunities of every class or group.

They maintain that every time they teach any group or class the importance of relying upon tested information as the basis for action, they advance the cause of science. They maintain that every time they teach any class or group in society how to live better, to read more discriminatingly, to do any of the things which stimulate intellectual or aesthetic interest and effort, they thereby enlarge the group's outlook on life, make its members more cosmopolitan in their points of view, and improve their standard of living. Such services as these the state universities would not shirk from performing—indeed would seek to perform.

—HORACE T. MORSE, dean

THE GRADUATE SCHOOL

General—The Graduate School serves as the central focus of the University with regard to the two indissolubly linked activities of graduate education and research. During the 1962-64 biennium, the dominant trend was an increase in both of these activities, an increase which brings much satisfaction and pride, but which also naturally presents special problems. It is perhaps appropriate to mention here, as was mentioned in the previous biennial report, two problems, which face us as they face many graduate schools. The first is a maintenance of an appropriate program of fellowship support for graduate students, especially the maintenance of proper balance among the various disciplines. The second is the continuing effort to streamline our procedures and our processing of records, so that we can efficiently serve the increasing number of graduate students, while retaining the careful individual relation between each student and the graduate faculty, and the free custom-tailoring of each student's program to fit his abilities and preparation and goals.

Each of these problems will be mentioned in the paragraphs which follow. In addition, we are able to present a number of fine steps forward, and a record of continued development and achievement in the graduate enterprise of this University.

Enrollment and Degrees Granted—The continued expansion of graduate study at the Twin City, Duluth, and Rochester campuses is outlined in Tables I and II that follow.

The total enrollment in 1963-64 of 9,253 students represents a rise of 7.5 per cent above the 8,610 of 1962-63. Enrollments in 1960-61 and 1961-62 were 7,473 and 7,874, respectively. These totals include substantial summer-session-only enrollments (1,757 in 1963-64) and some 700 students enrolled in the Mayo Foundation. These summer session and Mayo totals, unlike the academic year figures, have shown but a minor increase since 1961-62.

Master's degrees awarded during the two years 1962-63 and 1963-64 totaled 1,951 or 207 (12 per cent) more than in the previous biennium. Ph.D.'s awarded in this biennium totaled 630 or 134 (27 per cent) more than in the previous two years. Table II shows the broad areas in which students registered and degrees were granted. The rising number of students in Master's programs in Education at Duluth (50 in 1962-64 compared to 38 in 1960-62)

TABLE I—GRADUATE SCHOOL STUDENTS IN RESIDENCE DURING THE YEARS 1962-63 AND 1963-64

Classification	1962-63			1963-64		
	Men	Women	Total	Men	Women	Total
Fall, Winter, and/or Spring	3796	878	4674	4118	942	5060
Summer Session Only	1036	500	1536	1150	607	1757
Both Fall, Winter, Spring, and Summer Session	1357	320	1677	1327	379	1706
Mayo Foundation	706	17	723	710	20	730
Totals	6895	1715	8610	7305	1948	9253
Totals, Academic Year (exclusive of Mayo)	5153	1198	6351	5445	1321	6766
Total Individuals in Two Summer Terms, Less Duplicates (exclusive of Mayo)	2393	820	3213	2477	986	3463

is notable, as is the fact that in 1963-64 seven students were enrolled in Master's programs on that campus in areas outside the education field.

These degrees awarded in 1962-64 bring the totals for the history of the Graduate School to 5,749 Ph.D.'s and 21,313 Master's degrees since the first graduate degree was awarded in 1880. The 2,581 graduate degrees awarded in 1962-64 represent 9.5 per cent of all the graduate degrees awarded in our history.

The geographic distribution of the origins of our graduate students is shown in Table III. The pattern has changed but little in recent years; about 56 per cent came from Minnesota, an additional 9 per cent from our border states plus Montana and Michigan, 21 per cent from other of the United States, and 13 per cent from foreign countries. In 1963-64, the 1,166 foreign graduate students came from 84 different countries; Canada led the list with the greatest number (212), with China (Free) second (167) and India, third (156).

TABLE II--DEGREES SOUGHT AND OBTAINED BY STUDENTS REGISTERED IN THE GRADUATE SCHOOL 1962-63 AND 1963-64

	No Degree Sought		Master's Degrees		Ph.D. Degrees		Total Degrees	
	Sought	Obtained	Sought	Obtained	Sought	Obtained	Sought	Obtained
1962-63								
Agricultural Science	13	257	55	280	55	537	110	
Biological Science	8	61	10	52	6	113	16	
Education								
Twin Cities Campuses	207	1705 ^a	256 ^b	505	73	2210	329	
Duluth Campus	19	191	26	16	6	701	68	
Language, Literature, Art	24	420	66	225	20	645	86	
Medical Science								
Twin Cities Campuses	158	389	37	240	22	629	59	
Rochester Campus	6	685	62	16	6	701	68	
Physical Science	13	790	182	498	66	1288	248	
Social Science	48	1156	208	421	56	1577	264	
Other								
Twin Cities Campuses	4	101	32	102	10	203	42	
Rochester Campus		16	3			16	3	
Twin Cities Total	475	4879	846	2323	308	7202	1154	
Duluth Total	19	191	26			191	26	
Rochester Total	6	701	65	16	6	717	71	
GRAND TOTAL	500	5771	937	2339	314	8110	1251	
1963-64								
Agricultural Science	22	265	71	245	53	510	124	
Biological Science	8	66	10	44	7	110	17	
Education								
Twin Cities Campuses	240	1934 ^c	322 ^d	482	67	2416	389	
Duluth Campus	8	185	24			185	24	
Language, Literature, Art								
Twin Cities Campuses	29	486	49	213	21	699	70	
Duluth Campus		7				7		
Medical Science								
Twin Cities Campuses	101	510	45	228	29	738	74	
Rochester Campus	3	696	47	14	6	710	53	
Physical Science	24	922	190	494	65	1416	255	
Social Science	34	1283	224	434	49	1717	273	
Other								
Twin Cities Campuses	5	140	31	114	19	254	50	
Rochester Campus		17	3			17	3	
Twin Cities Total	463	5606	942	2254	310	7860	1252	
Duluth Total	8	192	24			192	24	
Rochester Total	3	713	48	14	6	727	56	
GRAND TOTAL	474	6511	1014	2268	316	8779	1332	

^a Included are 58 students seeking the certificate of Specialist in Education.

^b Included are 4 students who received the certificate of Specialist in Education.

^c Included are 69 students seeking the certificate of Specialist in Education.

^d Included are 3 students who received the certificate of Specialist in Education.

The Graduate School has also been concerned to widen the opportunity for advanced study and graduate work, including appropriate degree offerings. Thus in 1964, the Graduate School authorized a Master's program in Chemistry to be offered on the Duluth campus; this change is noteworthy since it represents the first offering of a research degree, involving a dissertation, on this campus. It is clear that there will be need for a widening of graduate program activities, both in locations away from the Twin Cities campuses, and in evening hours. While no new definitive steps have been taken in the present biennium, a subcommittee of the graduate faculty has been studying the problem, and these considerations should mature into appropriate developments during the next two years.

Toward the end of the last biennium, the Graduate School adopted some changes which involved the requirement that Ph.D. candidates, having once passed their oral preliminary examination, must register continuously in the Graduate School, and must complete their thesis work within a five-year period. This change has been operating smoothly and with apparent effectiveness; there are a number of indications, not susceptible to statistical summary, that the purpose of the procedure is being served, and that candidates are being helpfully stimulated to complete the requirements for their degree. In terms of statistics, it is interesting to note that, as of the spring quarter in 1964, there were 957 such Ph.D. candidates registered, of whom 350 were completing their thesis work while away from the Twin City area.

As a final program development worthy of note, the CIC Traveling Scholarship Program came into being during the biennium 1962-64; this cooperative effort by the Big Ten and Chicago universities will enable a graduate student at any one of these institutions to avail himself, for a quarter, of any special opportunities on one of the other campuses, without increased cost and with no formalities beyond the approval of the two graduate deans concerned. The program is getting under way, and we are proud to record that the very first CIC Traveling Scholar was enrolled in the University of Minnesota Graduate School in the summer of 1963. We took advantage of a special situation that arose at that time and initiated the program ahead of its scheduled starting date. In 1963-64, 41 CIC Traveling Scholars were enrolled in the member schools, a modest but significant start of what we hope will develop into a program of great importance to our graduate programs.

Graduate Fellowships—Table IV gives the statistics of fellowships and grants for graduate students awarded through the Graduate School. Many additional fellowships are available within schools and departments; only those open to students across many fields or administered by the Graduate School are included here.

The continued growth in federal agency support is evident in these data. National Science Foundation programs have grown from 51 fellowships in 1960-61 to 93 (not counting the Science Faculty Fellowships) in 1963-64.

The National Science Foundation fellows were in the following fields of study: mathematical, physical, medical, biological, and engineering sciences; anthropology, economics, geography, history and philosophy of science, linguistics, psychology, and sociology.

The National Defense Education Act fellowship programs under Title IV of this Act supported 42 fellows in the biennium in the following fields: applied mathematics, Asian area studies, chemical engineering, German literature, microclimatology, college teaching in the social sciences, high energy physics, educational psychology, and mechanical engineering. Under the language program (Title VI of the Act), support was given to study of the following languages: Danish, Spanish, Arabic, and Hindi-Urdu.

The NASA traineeships were in these space-related fields: aeronautical engineering, engineering mechanics, chemical engineering, chemistry, electrical engineering, mathematics, mechanical engineering, physics, physiology, geology, economics, and psychology.

The rise in externally supported fellowship programs is clear from the summary figures. While the number of internally controlled fellowships has also risen from 7 in 1960-61 to 20 in 1963-64 (the rise is almost entirely accounted for by the new and valuable McKnight program in Theatre Arts), the situation is still one of a paucity of fellowship support that can be granted

TABLE IV
GRADUATE STUDENT FELLOWSHIPS AND GRANTS
AWARDED IN 1962-63 AND 1963-64

	1962-63	1963-64
From funds controlled by outside sources		
National Science Foundation:	96	108
Cooperative	29	45
Regular	23	20
Summer	38	38
Science Faculty Fellowships ¹	6	5
National Defense Education Act	22	20
Title IV Graduate Fellowships	19	14
Title VI Modern Foreign Language Fellowships	3	6
National Aeronautics and Space Administration		
Traineeships	10	15
National Institutes of Health		
Fellowships	20 ²	24
Fulbright Awards	9	13
Woodrow Wilson Fellowships	8	4
Danforth Fellowships	7	1
Totals, externally controlled funds	172	185
From University controlled funds	21	20
Greater University Fund Fellowships	2	2
Graduate School Doctoral Fellowships	6	6
McKnight Fellowships (Theatre)	13	12
Graduate School Special Grants ³	2	16
Totals, internally controlled funds	23	36
TOTAL, all funds	195	221

¹ A few of these go to post-doctoral scholars, the rest to pre-doctoral.

² This program was decentralized in 1963-64; the 1962-63 figure is an estimate of the number appointed by N.I.H. under the earlier procedures.

³ Small grants (\$100 to \$500) to graduate students completing Ph.D.'s.

by the Graduate School without regard to restrictions on the fields of study of the student. We had but eight such fellowships to award in each of the last two years, compared to nearly two hundred in programs whose outside sponsors determined the range of fields in which support could be granted. In short, more "free" fellowships that can be awarded where the needs are greatest (usually but not always in the arts and humanities areas) remain one of the prime needs of the Graduate School.

This lack of balance in the fellowships under the control of the Graduate School continues to be a source of concern. We have continued to develop the Fellowship Office, begun in 1960, and during the biennium have completed plans which should strengthen this arm of the Graduate School. Thus we hope that some developments can be begun during the coming biennium which will help to enlarge and balance the program of fellowship support in our Graduate School.

Special Visitors—The President and the Dean of the Graduate School jointly appoint as Honorary Fellows distinguished scholars visiting the campus for some extended period during a given academic year, who are with us with support of their own, visiting as guests of the University and sharing with our own faculty certain fields of interest. During the biennium 1962-64, there were 36 scholars who were awarded Honorary Fellowships. In addition to the 6 Fellows from the United States, Africa was represented by 4, Asia by 10, Canada by 2, Europe by 10, the Philippines by 1, and South America by 3. Their areas of study included 26 fields of specialization in our Graduate School.

There is of course ever present on our campus a far larger number of "postdoctoral" scholars than is represented by those who receive appointments as Honorary Fellows. Many postdoctoral research scholars hold temporary appointments from the University's research grants, for example. In common with other graduate schools across the nation, we have some concern to identify these postdoctoral scholars, present on our campus either as visitors and guests or as collaborating employees in the University's own re-

search programs; and we are initiating, again in common with other institutions, some study. Like other members of the University community, the postdoctoral scholar both contributes to and receives from the University enterprise, and we are sure that he represents a desirable and valuable part of our community of scholars.

The 1963 Guy Stanton Ford Lectures, honoring the late dean of the Graduate School and President of the University, were presented by the English-born economist, philosopher and poet, Professor Kenneth E. Boulding of the University of Michigan. Professor Boulding spoke on "The Infant Science of Conflict Management," "Peace as an Economic Problem," and "The Conflict of Freedom and Justice as Economic Ideals." In 1964 a series of five lectures was given in conjunction with the dedication of the Guy Stanton Ford Room in the Social Science Building. Professor Siegfried Giedion, an art historian from the Federal Institute of Technology, Zurich, Switzerland, gave three of the lectures, speaking on "Constancy and Change in Architecture," "The Supremacy of the Vertical," and "The Three Space Conceptions." The remaining two lectures, "German Foreign Policy 1900-1914" and "Stresemann and Briand in the 1920's," were delivered by Professor Fritz Fischer, historian from the University of Hamburg, Germany.

Five lectures under the general title "Freedom" were given during 1963-64 in memory of Professor Donald G. Paterson, University of Minnesota psychologist who took a strong interest in the area of civil liberties. Lecturers and their topics were: Mortimer Adler, editor of *Great Books of the Western World*, "Freedom and Freedom of the Will"; W. H. Auden, poet, "Freedom and Art"; Sterling McMurrin, professor of philosophy, University of Utah, and former United States Commissioner of Education, "Freedom and Education"; Eugene Rabinowitch, editor, *Bulletin of the Atomic Scientists*, "Freedom and Science"; and Associate Justice William O. Douglas, United States Supreme Court, "Freedom and the Law."

The Joseph Warren Beach Lectureship, with emphasis on contemporary literature, in memory of the distinguished work of the late professor, was presented in 1963 by Professor Morton Zabel, University of Chicago, who spoke on "The Matter with the Novel." Professor Frank Kermodé of the University of Leeds, England, gave the 1964 lecture, speaking on "Temporal Expectations and Literary Form."

Special Programs—There are a number of special programs, typically of an all-University or interdisciplinary nature, which are administered by the Graduate School. One such program is that of the Mayo Foundation, involving distinguished medical research and graduate educational activities in the medical field; this activity is reported separately in this volume.

The Cedar Creek Natural History Area program (jointly sponsored by the Minnesota Academy of Science and the University of Minnesota) continued to develop during the biennium. The objectives of the project are threefold: to preserve unique habitats, to serve as a base for research, and to provide a site for outdoor classrooms. Approximately 1,500 people were issued permits to visit the area. These included a Macalester College class in winter ecology who stayed in the dormitory in January 1964, as well as classes from four other colleges and the University. Ten research projects involving fossil plant pigments in Cedar Bog Lake, radio-tracking of red fox, behavior of ruffed grouse, and other similar subjects were actively pursued. Acquisition of land, fencing, removal of old buildings, and similar aspects of maintaining the natural features of the area were carried out under the guidance of the Advisory Committee, which is a unit of the Graduate School.

The Dight Institute, also operating directly under the Graduate School, continued its activities in the field of human genetics, in the three-fold program of education both to University students and to outside groups, of research, and of counseling. Recent advances in the field were reviewed for a second edition of Dr. Reed's book on *Counseling in Medical Genetics*. After 15 years of work, a family study of mental retardation has been completed and prepared for publication. An increase in number of graduate students was made possible by an NIH Training Grant, and several new research projects were initiated.

Another unit is the Hormel Institute, located in Austin, Minnesota, which continued during the biennium the outstanding program of research in lipid metabolism and the biochemistry of fatty acids which has brought it into a position of leadership in this field. With the more complete utilization of the new laboratory building built in 1960, the research program attracted increased research support from the National Institutes of Health, as well as from other outside agencies. Thus this fine research institute continued to carry forward a program of research, expanded because of outside support, but made possible and firmly rooted in the ongoing basic support from the Hormel Foundation.

For the last few years the Graduate School has administered some programs in the South Asia area. Through funds from the Hill Foundation, grants have been made to a few faculty members in partial support of their research in South Asian countries. The Graduate School also administers a contract between the Department of State and the University. This contract provides for an exchange of a few faculty members between the University of Minnesota and Osmania University of Hyderabad, India, as a means of developing and expanding a program in American Studies at Osmania. So far, under the contract, we have sent to Osmania one of our faculty, Dr. Jay Gurian, for two years of duty with the Department of English at Osmania; others will be going to Osmania (and coming here from Osmania) in 1964-65.

Graduate School Research Funds—Five funds are utilized by the Graduate School for the support of scholarly activities of faculty in all areas of the University. In order of size they are: the General Research Fund, the Overhead Reserve Research Fund, the Medical and Cancer Research Fund, the Minnesota Institute of Research Fund, and the Nonmedical Research Fund. Table V summarizes the amounts of and the number of grants made from these funds.

TABLE V—GRADUATE SCHOOL RESEARCH FUNDS

	Appropriation		Number of Grants Made	
	1962-63	1963-64	1962-63	1963-64
General Research	\$120,000	\$125,000	52	57
Overhead Reserve Research	100,000	100,000	39	30
Medical and Cancer Research	94,000	95,000	72	79
Minnesota Institute of Research	36,000	37,000	14	13
Nonmedical Research	31,000	31,000	65	54
Totals	\$381,000	\$388,000	242	233

As can be seen from the table, these funds are all used typically for small grant, "seed-money," types of assistance to our faculty in their research and scholarly activities. The grants summarized above averaged less than \$1,700, and went to hundreds of our faculty members in all the departments of the University. Some part of these funds is used for special program support: the Faculty Summer Research Appointment program, from the Overhead Reserve Fund, granted summer appointments for 13 faculty members in the summer of 1963, and for 14 in 1964. This support permitted these scholars full-time effort on their research, undistracted by other duties or necessities. The range of projects under this Summer Research program covered the following fields: history, English, music, political science, mining and metallurgy, business administration, educational psychology, psychology, architecture, sociology, art, child development, philosophy, law, electrical engineering, and journalism. Some grants were made to other special programs, but the bulk of each of the funds went as individual grants to individual faculty members for their own research projects.

The Medical and Cancer Research Funds are allotted by the Graduate Dean on the advice of the Medical Sciences Group Committee of the Graduate School. The other four funds are allotted by him with the advice of the General Research Advisory Committee, a committee of graduate faculty members representing a broad range of faculty research interests.

The Overhead Reserve Research Funds come from an appropriation from the overhead on external research contracts; the others come from special appropriations of the legislature.

While the totals of these funds are substantial, they amount to only about 2½ per cent of the total research and research-related funds that come to the University by way of research contracts and grants, largely from federal agencies. These five funds, however, because they are subject only to internal decisions and allocations, bulk large in their impact on the research and scholarly activities of the University faculty. Because they can be allocated quickly, with a minimum of formal procedures, and because they can be granted to persons on the basis of internal knowledge of their capabilities rather than external reputation, they are, in fact, used for the support of new lines of research and, also, of newcomers to research activities. In both cases, many of the grants permit exploration of new ideas sometimes by new people which may result in larger and externally financed future developments.

During these two years, the Graduate School found that the funds available permitted the support of recommended projects only to the extent of about two-thirds of the amounts requested. Some worthy projects had to be rejected, and others cut in amount from that requested in order to stay within the available funds.

Graduate School Research Center—In response to a request from the Central Administration, the Graduate School Research Center began, on November 1, 1962, to collect information on all applications submitted to external sources for research support. Through June 30, 1964, 1,660 proposals had been processed and information concerning them summarized. As is necessary with any system which has as its central purpose the collection of information, we are striving to gather and maintain this information in the most efficient manner possible. For this reason, our processing procedures are constantly under study.

Another recently acquired function of the Research Center is the collection and maintenance of information useful to persons on the staff preparing proposals for support of research from external sources. As this information becomes more complete, we are better able to advise faculty members about the granting policies and procedures of various support sources and provide information regarding the submission of proposals, e.g. deadline dates, etc.

The annual *Inventory of Research* has now been published twice as a campus-wide enterprise, and preparation of the 1963-64 edition is well advanced. Every indication is that the Inventory is a very useful document and we are confident that its utility and completeness will increase in a complementary fashion in the future.

As indicated in the discussion of Graduate School Research Funds, above, the amount of research activity financed from funds administered by the Graduate School is a small fraction of the total of externally financed research that comes to the University. In 1963-64, for example, contracts and grants by the federal agencies, private foundations, and other non-state legislature organizations for the support of research amounted to approximately 21.5 million dollars.

In addition to these sponsored research activities there is much research and scholarly activity supported by department funds within the University; and, of course, the faculty members pursue much of their research and scholarly activity as a part of their lives as University staff members without specific or direct support.

Both the sponsored and the individually motivated and conducted research have their place in a University setting, and the encouragement of appropriate programs and projects of both types is a part of the responsibility of the Graduate School. It is to assist in these efforts that the Graduate School Research Center performs its assistance-information recording functions.

Our two Advisory Councils, those for the Social Sciences and the Arts and Letters faculties, continue to function actively. The two committees cooperated in the spring of 1963 to produce a ten-week television series entitled "Many-Sided Language." We have recently published a booklet incorporating the discussions of that series. The series presented in 1964, "Two

Cities—A Million Problems,” was a twelve-week program sponsored by the Social Science Advisory Council.

In addition to the annual administration of the Guy Stanton Ford Lecture Series, the Arts and Letters Council has recently developed plans for a monograph series in the humanities which will probably be published by the University of Minnesota Press under the sponsorship of the Graduate School.

Reference was made in the last biennial report to a large conference, “Higher Education Tomorrow,” which was held in Little Falls, Minnesota, in March of 1962. As a direct result of this conference, several of our faculty picked up one of the topics of discussion and proceeded, with the assistance of the Center, to develop an extensive program of research focused on this subject. Within six months of the Little Falls conference, this *ad hoc* faculty group had, under the chairmanship of Professor Robert H. Beck, applied for and received a grant of \$76,167 from the Hill Family Foundation to establish and operate for three years the Center for the Study of Programmed Learning. The Center, under the direction of Professor Russell W. Burris, has flourished and will probably be directly related to a more extensive Center for Human Learning which has recently received assurance of financing from the federal government. In addition to its other activities, the Graduate School Research Center strives to serve the faculty by providing a locus and staff services for the increasing number of activities of interdisciplinary faculty groups such as this one.

Administration and Staff—The function of the Graduate School office is to serve graduate students and graduate faculty, providing focus and coordination and record-keeping facilities for their activities. With the ever-increasing number of graduate students, the number of personnel in the Graduate School office has necessarily increased, though by no means proportionately. We have continued to put considerable effort into the improvement of our procedures and of such mechanical details as the forms used in record-keeping, since these constitute either a help (if well designed) or a hindrance (if not) to the effective work of the graduate faculty. We are especially concerned that we provide sufficient office help to the members of the Group Committees of the graduate faculty, so that they can continue to provide effective review of each individual student's program, and at the same time not be overwhelmed by the sheer volume of business. It is essential that we do so if we are to retain one of the greatest strengths of our Graduate School—namely, the direct participation of the graduate faculty as advisers, and through appropriate committees, in the guidance and counseling of each separate graduate student. We are therefore continually improving our procedures, adding to the amount of mechanical equipment used, so that the actual results of the procedures will be not mechanical but thoughtful and individual. During the present biennium there have been a large number of small changes of this sort, with no individual change sufficiently outstanding to merit mention here.

—BRYCE CRAWFORD, JR., dean

THE MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH

Mayo Foundation and the Mayo Clinic continue to grow. The year 1964 saw the peak enrollment of graduate students in the Mayo Foundation, numbering 657. This number constitutes about two per cent of the physicians in this country engaged in residency training. It means that approximately two per cent of the specialists in the country are, or will soon be, alumni of the Mayo Foundation. To attract young physicians of high quality in these numbers necessitates constant vigilance to insure the continuation of an excellent training program. The quality of the educational program offered is the major determinant in the recruitment of fellows.

Medical Student Program—For many years undergraduate medical students have been encouraged to spend summer months in Mayo Foundation Pathology laboratories. In recent years this program has been expanded to

include the other basic science laboratories, as well as the various clinical fields. The program operates throughout the calendar year so that there are always some medical students in Rochester spending an elective quarter in some clinic or laboratory field. The common duration of a student's stay in Rochester is ten weeks. During the past year a total of forty-two students from twenty-four schools spent such elective time at the Mayo Foundation. These included schools at some distance, such as Yale, Harvard, Johns Hopkins, McGill, Baylor, Stanford and the University of Washington. Funds have been made available so that such medical students are given a scholarship of \$300 to help defray expenses.

Mayo Centennial Year—The year 1964 marks the approximate centennial of the births of Doctor William J. Mayo (1861) and Doctor Charles H. Mayo (1865). The year 1964 also is the fiftieth year of operation of the Mayo Foundation for Medical Education and Research, which was formed in 1915. Consequently, the year 1964 has been designated as the Mayo Centennial Year and also as the semicentennial of the Mayo Foundation. Throughout the year 1964, as part of the centennial celebration, there have been or will be a total of forty-two scientific meetings in Rochester. These are meetings of national or regional scientific and medical societies. Most of these meetings are scheduled for from one to three days. An estimated 6,200 people will have attended these sessions.

Mayo Centennial Symposium—At the time of the annual meeting of the Alumni Association of the Mayo Foundation, there will be a symposium in Rochester to which a large number of guests have been invited. The symposium is entitled, "Mirror to Man." The theme is "Man's Adaptation to His Expanding Environment." Participating will be President O. Meredith Wilson; Dr. Laurence M. Gould, Emeritus President of Carleton College; Dr. Loren Eiseley, Anthropologist; Dr. Peter Medawar, Biologist; Dr. Edward Teller, Physicist; Dr. Arthur Larson, Jurist; Dr. Constantinos A. Doxiadis, Architect and City Planner; and Gen. Lauris Norstad, Soldier and Statesman.

Mayo Centennial Convocation—The alumni reunion program will also include the Mayo Centennial Convocation, which will be held in Rochester in full academic university style and tradition. At this time outstanding achievement awards of the University of Minnesota will be given to thirty-five Mayo Foundation alumni, selected for such honor from among the 4,000 alumni. The panel participating in the symposium will be given University citations at the Convocation. The Convocation orator will be President O. Meredith Wilson.

Extramural Financial Support—In 1957 the decision was reached in Rochester that outside funds should be sought to help support the education and research activities of the Mayo Foundation, the Mayo Clinic, and the Mayo Association. There have been annual increases in the amounts involved, which now approximate \$350,000 annually for training programs and \$2,600,000 in research grants.

—VICTOR JOHNSON, *director*

BUREAU OF INSTITUTIONAL RESEARCH

Senate Committee on Institutional Research—Philip M. Raup continued to serve as chairman of the Senate Committee on Institutional Research throughout the 1962-64 biennium. Other members of the Committee were: George R. Blake (replaced Keith McFarland), Thomas W. Chamberlin, John N. Clausen (replaced Sheldon Reed), Ruth E. Eckert (replaced E. Paul Torrance), Stephen G. Granger (replaced John Buttrick), Robert J. Keller, Paul R. O'Connor, William C. Rogers (replaced Maurice Visscher), William G. Shepherd (replaced Malcolm Willey), Robert E. Summers, and John E. Stecklein.

During the past year several sub-committees have been set up to study possible revisions in the statement of functions of the committee, methods

of improving the dissemination of results of studies made by the Bureau, and research projects that should be undertaken by the Bureau.

Bureau Personnel—At the mid-point of the biennium, Robert L. Lathrop left the staff to take a full-time teaching position and to assist in the development of a new department of educational psychology at the Pennsylvania State University. Since Dr. Lathrop had been with the Bureau for six years, his loss was greatly felt. Definitely a gain, however, was Dr. Mary Corcoran's return from an 18-month leave of absence during which she served as research associate for the International Staff of University Admissions sponsored by UNESCO and the International Association of Universities. Earl Ringo completed his doctorate during the biennium, which now frees him for full attention to his position. The Director spent six weeks in Colombia, South America, making two separate studies for the Ford Foundation. In the first he served as a team participant in a complete evaluation of the program, staff, facilities, and students of the University of Antioquia; and in the second, he carried out a personal study and analysis of the operation of the Association of Colombian Universities.

General Educational Research Unit—Major projects carried by staff members of the general educational research unit included the currently-being-completed analysis of patterns of study and academic achievement of students who participate in inter-collegiate athletics, an analysis and expenditure quantification of the University's involvement in international programs, a comparison of types of faculty publications and publication productivity between the periods 1935-36 and 1955-56, and a follow-up of individuals involved in two parts of the four-fold study of faculty attraction and retention completed in 1960.

The study of academic progress of student athletes involved a controlled comparison of athletes with non-athletes over a five year span dating back to 1957 and covering both years of Rose Bowl participation. Data were collected to compare the athletes with their nonathlete peers on such things as rate of progress toward degree, number of degrees conferred, probation status, and rate of drop-outs. Patterns of study of the various groups are also being compared. A second, longitudinal study extending through 1968 is also planned.

As a preliminary step in the development of a broad proposal for the expansion and redirection of international programs, the Bureau was asked to make a survey of the present involvement of the University in activities of this nature. In addition to identifying many specific types of activities in which the University and its faculty members engage, an attempt was made to estimate the cost to the University of such involvement.

The analysis of faculty publications showed that the rate of productivity had decreased slightly for the University as a whole and markedly in a number of colleges over the twenty year span. A marked increase in the use of mimeographed forms of publication was also found. An additional analysis is being considered, to provide comparative data on the 1963-64 faculty.

A follow-up study of individuals involved in two phases of the faculty attraction and retention study completed in 1960 showed that 40% of the individuals who came to the University as new faculty members five and six years ago and 22% of those who had turned down offers to go elsewhere at that time have since departed from the University.

Other studies undertaken during the biennium include: A follow-up survey of graduating seniors who had indicated interest in college teaching as a career; several evaluations of student reactions to closed-circuit television as an instructional medium; an evaluation of the McKnight Fellowship program; an analysis of the characteristics of applicants and individuals admitted to the Graduate School; and participation with the University Dental School in a national study of dental education costs.

Administrative Research Unit—One of the most important projects undertaken by the Administrative Research Unit during the biennium was the development of a new faculty data system. This data system was conceived to provide readily accessible information about faculty characteristics and pro-

essional activities, as up-to-date as possible, and as a basis for long-range study. In the development of the system, techniques were developed which provide every department head and dean, and the President's Office, with a complete file of print-outs containing background and professional information about each of the faculty members under their jurisdiction. A procedure was developed whereby these data will be updated each spring by the faculty, and new print-outs will be made to be distributed to the various administrative units as early as possible in the following fall term. Although the procedure is just now taking the shape of routine, the Bureau has already had nearly a dozen special requests for information available from the faculty data system, including its use in developing the biennial reports for each department and college. As an adjunct to the development of more complete information about the faculty, a special set of data cards has been processed for ready access whenever a question is raised that requires a group analysis of the faculty. These cards will be kept up-to-date so that central administrative offices or other authorized personnel will be able to obtain on relatively short notice information about the group characteristics of the faculty.

Special studies were made also of student-faculty ratios and different methods of approximating instructional costs. The usual responsibility of completing University-wide questionnaires and surveys for various national agencies or professional groups was continued.

Staff members in the Administrative Research Unit continued their annual analysis of course inventory and the annual enrollment surveys made for the Committee for Continuing Study of Higher Education of the Association of Minnesota Colleges. Completion of the tenth annual survey made possible for the first time a ten-year comparison of data collected in this annual study.

State-Wide or Regional Studies—The Bureau was heavily involved during the past biennium in studies made in the interest of state-wide or regional groups. As indicated in the last biennial report, the increasing number of requests made to the Bureau for assistance in state-wide or regional organizations has been imposing a heavy-work load on the staff. Steps have been taken to increase the staff in recognition of this increased work load.

The most extensive responsibility on a state-wide basis was the role that the Bureau played in the development and conduct of a comprehensive state-wide analysis of course offerings in all public institutions of higher education. This study identified in detail all courses offered by all of the public junior colleges, state colleges, and the University in two selected bienniums—1956-57 and 1957-58 and 1961-62 and 1962-63—to provide a basis for up-to-date information about curricular offerings of our institutions and for the study of short-term trends that may have been observable over the six year span. This information was collected for the Liaison Committee on Higher Education in Minnesota, as background data in developing a statement of functions for the higher educational institutions of the state.

Bureau personnel also made careful analyses of the off-campus and evening course offerings of the various institutions of higher education in the state. These studies were made on behalf of a sub-committee of the Advisory Committee on Extension Services, as assistance to the Liaison Committee on Higher Education.

The director is completing his fifth year as head of the research staff of the Liaison Committee. As such, he has been heavily involved in other activities of the Liaison Committee and has carried primary responsibility for its biennial report.

At the regional level the Bureau has participated in the work of the Midwestern Advisory Committee on Higher Education, of which the director is a member. A special study of the inter-state flow of midwestern students enrolled in five "high cost" professional fields—dentistry, forestry, medicine, pharmacy, and veterinary medicine—was made by the Bureau for this committee. Interest in the findings was so great that Bureau personnel were asked to make a summary presentation for the Midwestern Standing Committee on Higher Education at the 1964 Midwestern Regional Conference of the Council of State Governments.

Other Bureau Activities—As in past bienniums, members of the Bureau staff continued to carry major responsibility for advising and teaching in educational psychology courses in the areas of measurement and evaluation as well as advising graduate students and assisting faculty in research design.

The Bureau has also continued its work in the development of the graduate form of the Aliferis-Stecklein Music Test. Plans are now being made for a national administration of two parts of the test in the spring of 1965.

Now completing its thirteenth year, the examinations service provided by the Bureau for faculty members has distributed over 86,000 copies of the bulletins on classroom testing. The off-campus sale of these pamphlets now completely supports the printing and distribution of these bulletins to the University faculty. The examinations consultant met with individual faculty members and faculty groups to assist them in problems dealing with examinations or grading or evaluation practices.

The Bureau served as host to the Fourth National Institutional Research Forum in the spring of 1964. Nearly 200 people involved in institutional research throughout the fifty states attended a three-day conference to discuss the topic, "Conceptual Framework for Institutional Research."

Plans for the Future—Studies contemplated for the coming year include extensive evaluation of the television courses being offered through the extension division as part of a complete course package for entering freshmen, a series of simulation studies designed to assist in long-range planning of the institution, a survey of examinations practices in the University, and continuing study of staffing problems presented by the anticipated large increases in enrollment.

—J. E. STECKLEIN, *director*

OFFICE OF INTERNATIONAL PROGRAMS

The Expansion of International Programs—During the biennium a major effort has been made to reexamine existing University programs of international training and research and to reorient and expand them in useful ways. This effort also led to recommendations for the creation of machinery to guide and coordinate such programs throughout the University, including a Dean of International Programs assisted by a small Office of International Programs, a University-wide Council on International Programs, and coordinating officers and committees in a number of colleges. A number of new programs have already been set into motion.

This activity began when representatives of the Ford Foundation suggested in 1962 that support might be given to a well-considered plan for strengthening staff and facilities in the international relations and area study programs. Initial discussions in the committees which direct these interdisciplinary training programs, which have been based primarily upon social science and humanities departments within the College of Liberal Arts, revealed that there were also substantial international interests and skills in a number of the professional and technical schools which should be included in future program planning. In the spring of 1962 President Wilson decided to appoint an *ad hoc* committee representative of all major units of the University concerned with international programs. Vice President Malcolm M. Willey sat regularly with this committee, as did a representative of the Graduate School (Associate Dean Francis M. Boddy), and representatives of the Institute of Agriculture, the College of Education, the Institute of Technology, the School of Business Administration, the School of Public Health, the Law School, the several international relations and area study programs within the College of Liberal Arts, the Foreign Student Adviser's Office, and the World Affairs Center (a unit of the General Extension Division). The committee was chaired by Professor Charles H. McLaughlin, Chairman of the Department of Political Science and Director of the Center for International Relations and Area Studies. This committee met frequently throughout the entire biennium and invited submission to it by all units of the University of proposals for curricular reorganization, research, and

needed expansion of staff and facilities in the international field. The invitation not only produced a very general response, but led to the creation of standing committees in a number of colleges which sifted and evaluated proposals to be submitted to the President's *ad hoc* committee. So great was the volume of proposals that the *ad hoc* committee was obliged to meet for many months nearly every Saturday morning for 3 to 4 hours and frequently at luncheon meetings.

As the work of the committee progressed, a number of principal points became evident:

(1) Hundreds of members of the faculty had valuable research interests and plans which could be realized only with external financial support. Some of these plans were related to research interests in other faculties of the University to such an extent that they could reinforce each other by common planning. It therefore appeared desirable to improve procedures both for coordinating research planning and for securing continuing government and foundation support.

(2) There exists a great pool of overseas experience in the professional and technical faculties which can be used in international relations or area study training designed to prepare technical personnel for service overseas, and can add new dimensions to the existing training of career personnel for government agencies and teaching. In many cases members of these faculties are also available for educational assistance programs in other countries, thus opening possibilities of further enlargement of University experience. A better integration of the faculties of a number of colleges may thus open the possibility of new types of programs of great potential value.

(3) Although the relevant social science and humanities departments have great strength in the international sector of the several disciplines and have therefore been able to provide excellent curricula in international relations and several foreign area study programs, these programs have never had the financial support which would permit systematic development. Consequently they are of uneven quality, needing additions to staff strength in some disciplines. In general they are also so undermanned that release of faculty for research and educational assistance programs creates a problem of staff continuity in regular programs. There is also considerable unevenness in library and other facilities for these programs.

(4) Imaginative pioneering programs which have had great impact here and great influence elsewhere have been developed by the Office of the Foreign Student Adviser and by the World Affairs Center, which works in adult and community education. In both cases only shoestring financial support has been provided, and the staffs, although able and devoted, are no more than a quarter of the strength needed. A great opportunity exists in these fields for the extension of already valuable services.

In the light of these conclusions the President's *ad hoc* committee felt it must move in several directions. First, it developed proposals for the creation of agencies for continuing planning and coordination within the University and for systematic contacts with such external organizations as foundations, units of government, and other educational institutions. Second, it attempted in a preliminary way to draw together a comprehensive plan for expanded programs in the international field, including curricular development, research, and community education. Although an initial impetus to its work had been the suggestion of the Ford Foundation that it would be receptive to a request for a major grant to assist the University in strengthening its international programs, the committee soon found that the scope of University interests far outran what could be presented to any single foundation. The total of requests for support of research projects and expansion of staff and facilities for instructional programs presented to the *ad hoc* committee amounted to about \$26,000,000. From these requests the committee developed a blueprint for expansion over a five-year period requiring about \$11,000,000. This plan was submitted to the Ford Foundation, not upon the supposition that it would provide support at that level, but in

order to give a full picture of the total range of the University's international resources and interests. It is expected that this master plan will be utilized in a continuing effort through the new University agencies to secure support from a number of sources; it contains such a variety of proposals as can be expected to appeal to the interests of a considerable range of foundations and government units. In fact, the plan has already been the basis of detailed discussions with the Ford Foundation, which has also sent two officers to visit the University. These conversations have led to a request by the Foundation for a statement of the priorities which the University would apply in using a more limited grant. It is expected that some determination of possible Ford Foundation support will be made in the fall of 1964.

As the recommendations of the *ad hoc* committee with respect to new organization within the University have been accepted and to a considerable extent already implemented, other developments can best be stated in terms of the activities of this organization.

Dean of International Programs—In response to a recommendation of the *ad hoc* committee, the President and Regents authorized creation of the new position of Dean of International Programs. A faculty committee canvassed available candidates for this post, both within and outside the University, and recommended the appointment of Professor Will M. Myers, who had served with distinction as Head of the University's Department of Agronomy and Plant Genetics. Professor Myers has had many contacts with foundations, served as science adviser to the Agency for International Development, and had had extensive overseas experience. He had also demonstrated his abilities and leadership in the work of the President's *ad hoc* committee. Professor Myers was accordingly appointed first Dean of International Programs on August 1, 1963, and has been actively at work in this post during the academic year 1963-64.

The Dean of International Programs has been given responsibility for (a) stimulation of useful new international programs and support and strengthening of existing programs, especially those involving multidisciplinary activity; (b) enlisting resources of appropriate units of the University in coordinating international programs which involve the University as a corporate unit; (c) solicitation, or encouragement of solicitation by other University units, of financial support for international programs or projects which cannot be adequately financed from regular budget. In carrying out these functions the Dean is responsible to the Vice President for Academic Administration and is assisted by a small administrative and research staff comprising a new Office of International Programs. He will work closely with a council and with coordinating officers and committees in several colleges and schools, mentioned hereafter. It is not intended that the Dean shall have a separate faculty of international relations under his direction; rather he will work with and through existing administrative, instructional, research, and service units of the University, enlisting their cooperation and support and giving them assistance as may be required. Thus his functions are essentially planning, coordination, and support. Although it is not out of the question that certain research projects or surveys might appropriately be organized within the Office of International Programs or some educational services be provided there, the usual pattern will be coordination and support of programs organized within other units of the University. The Dean will, of course, be the principal officer for external contacts to secure support or to negotiate University contracts for research or educational assistance in the international field. Some of these activities will be mentioned in the following paragraphs.

Office of International Programs—Assisting the Dean of International Programs is a small staff which presently includes an Assistant to the Dean (Howard G. Johnshoy), a research fellow (Gertrude A. Kuehl), and a principal secretary. The Assistant to the Dean has been conceived as an officer who could be assigned to major projects of a continuing type—for example, he first undertook the coordination of Peace Corps training programs and continues to serve as on-campus coordinator of the overseas (East Pakistan Rural Public Works) project contract with the Peace Corps. It may be as-

sumed that some increase in research and administrative assistance will be required as the work of the office grows.

During much of the first year of operation the Dean and the Office had not yet been assigned permanent quarters, but are now located in a suite of offices on the twelfth floor of the Social Science Building. There they will be in convenient proximity to the coordinating officers for international programs in the College of Liberal Arts, the College of Education, and the School of Business Administration, when these officers are established in space designated for them; also to the Center for International Relations and Area Studies of the College of Liberal Arts on the same floor, and to the World Affairs Center of General Extension Division, on the ground floor of the same building. A principal physical focus of international activities is thus emerging; other foci will undoubtedly develop, especially one on the St. Paul Campus.

It is expected that the Office of International Programs will provide information, research, and administrative services related to any of the functions of the Dean of International Programs already mentioned. It will provide a secretariat for administration of certain special training programs or research projects under University contracts, where such projects cannot be located in departmental or college units. It will provide information and facilities for seeking research support or negotiating research contracts, and will attempt to secure feedback of experience from such projects which will benefit the University. It will compile information about staff resources, library and other University facilities, which will be useful in coordinating instructional and research programs. These functions can be illustrated by recent activities of the Dean and the Office:

(a) *Peace Corps Training Programs*—During the biennium the University has been requested by the United States Peace Corps to create special training programs for groups of volunteers prior to assignment of them overseas. Under contract with the Peace Corps a series of three-month training programs was conducted, beginning in July, 1962. Four of these trained volunteers for service in Pakistan, and one for service in India. A total of 254 (72 per cent) of the 352 entering trainees successfully completed the training programs and were assigned to duties in Pakistan and India.

These programs have been especially relevant to certain objectives of the expanded international programs which are being planned, for they presented the problem of international and area training, language training, and adaptation of technical skills to foreign areas, for groups whose previous education has been mainly in technical and professional fields.

Intensive training was given from 8 a.m. to 9 p.m. six days a week with some additional language drill on Sunday evening. The objects were to develop basic command of a language used in the area to which the volunteer would be assigned; to acquaint him with the cultural characteristics, and political, economic, and social institutions and problems of the area; to relate the area to problems of world affairs; to build some understanding of basic American objectives and values and of Communist philosophy, tactics, and strategy; to condition trainees physically and give them personal and public health training, and to provide orientation to the objectives and methods of the Peace Corps and the problems of effective functioning overseas.

Language training, which occupied about one-half of the training schedule, posed considerable problems. For the first Pakistan group the University had, upon two months notice, to arrange instruction in Bengali, Pushtu, Sindhi, and Punjabi, languages not previously taught here and for some of which teaching materials were not readily available anywhere in the country. For later groups Urdu and Kannada were added. Working with newer methods of aural-oral teaching and using native drillmasters, the program developed a basic knowledge of the structure of the language and command of 1500 to 2000 lexemes suitable for general communication and future vocabulary building. Students were first drilled in phonology through use of minimal pairs to acquire the basic sound patterns. Next they mastered the most common concordances in the language, with pattern drills based on

conversations characteristic of common situations. Finally, some fluency was developed through free conversations with drillmasters and taped mutation drills.

In addition to the training programs, the University has completed a Peace Corps contract for the development of language materials in Urdu for a continuation language program to be used for volunteers during their service in West Pakistan. The University also serves as an Overseas Administrator for the Peace Corps, supervising the conduct of a Rural Public Works Program in East Pakistan. This two-year contract will continue through June 30, 1965.

(b) *Proposed Programs in Chile*—Much preliminary study and negotiation has been completed, looking toward projects to be supported by the Ford Foundation in which the University would assist in the development of the University of Concepción, Chile, and in the development of an agricultural extension program in Chile. Two teams of University professors have visited Chile on fact-finding missions and have prepared detailed reports for the Ford Foundation. The first of these was a report entitled *Chilean Agriculture*, by Dean Sherwood O. Berg, Professor William P. Martin, and Professor Lester E. Hanson. The second was a report on the programs and needs of the University of Concepción by Dean Will M. Myers, Associate Dean Frank Verbrugge, and Professor E. W. McDiarmid, which considered especially the development of a central library and of institutes in several fields, and strengthening of faculty by graduate training in the United States. On the basis of these reports there have been further conversations with representatives of the Ford Foundation, and in June, 1964, Dean Myers returned to Chile to discuss with Dr. Harry Wilhelm, Ford Foundation Representative for Argentina and Chile, Rector Ignacio Gonzales of the University of Concepción, and Chilean Minister of Agriculture Ruy Barbosa, detailed points which will be the basis for working arrangements and for contracts with the Ford Foundation. It is expected that there will soon be confirmation of the contracts and that the program of educational assistance will be launched. It will involve sending several senior members of the University faculty to Concepción for extended periods, and arranging for graduate training of members of their faculties in this country.

During the course of these negotiations, the Office of International Programs conducted a faculty seminar on Chile which met each week to examine economic, political, and educational conditions and problems in that country. More than a dozen members of the faculty, including those who visited Chile in connection with the proposed contracts, participated. Eight members of the faculty who have expert knowledge of Chile made initial presentations and led discussions. Useful materials were obtained and made available to the participants. The seminar proved very helpful to those immediately concerned with the planning of programs in Chile or interested in future participation in them. It is planned to continue the seminar during the coming academic year.

(c) *Seminar for Chilean Teachers of English*—In January, 1964, the Office made arrangements for a 3-week seminar on American studies and the teaching of English as a foreign language for a group of ten Chilean teachers of English. This project was not related to the activities mentioned in paragraph (b), but grew out of the sister cities relationship which exists between Minneapolis and Santiago, Chile (part of the People-to-People Program). G. Richard Eberle, administrative director of the Instituto Chileno-Norteamericano de Cultura, proposed the visit to Mrs. Carl E. Swanson, President of the local People-to-People Committee, which endorsed it and enlisted the participation of the University, community organizations, and a number of local host families. Support was provided by the Bureau of Educational and Cultural Affairs of the U. S. Department of State.

The seminar devoted two-thirds of its time to the study of contemporary American society, with particular reference to the midwestern region. Twenty-one lectures by University faculty and other local authorities were provided, covering such varied topics as American politics and democratic ideals, labor and industrialization, segregation and current race relations, contemporary

American music, the American Indian, agriculture, religion, law and social change, mass communications, and the Alliance for Progress. A third of the seminar program was concerned with linguistics and the teaching of English as a foreign language, and was led by Professor Harold B. Allen, presently chairman of an advisory board of the National Council of Teachers of English which is producing a series of texts for this purpose, so that the seminar was able to use these materials. Excursions, field trips, and home hospitality were also provided for the visitors.

(d) *Ford Foundation Latin-American Exchange Program*—The University of Minnesota is one of six universities which are participating in a Ford Foundation program of Latin American faculty exchanges designed to develop Latin American studies and increase faculty knowledge of the area. A special faculty committee under Professor Raymond B. Nixon has been formed to examine proposals for Latin American study and research or invitations to Latin American scholars, and to allocate grants.

Two visiting scholars have already been brought to the University: Teodulo Dominguez of Argentina in the School of Journalism, and Orlando Sepulveda of Chile, in the Department of Sociology. A third, Alfredo Mendez, chief of the anthropology service for the Nutrition Institute of Central America and Panama, in Guatemala City, is expected in the fall of 1964.

Members of the University faculty who have received grants for Latin American study for 1964-65, are:

Ward Barrett, Assistant Professor of Geography—Mexico

W. Donald Beatty, Associate Professor of History—Chile

Robert H. Beck, Professor of Education—Chile and Colombia

Walter W. Klein, Assistant Professor of Political Science—Argentina

Eugene C. Mather, Professor of Geography—Chile

Raymond B. Nixon, Professor of Journalism—Argentina and Mexico

Walter W. Klein and Robert N. Pierce, teaching assistant in Journalism, will also participate in an advanced Latin American seminar to be held during the summer of 1964 at the University of California, Berkeley.

(e) *Relations with Government Agencies*—The Office has explored a number of possibilities for contract programs with government agencies and the military services, and will continue to examine what appear to be useful suggestions by such agencies for University research programs here and overseas. During the academic year 1963-64 it examined an Air Corps request for graduate training in international relations of personnel stationed in Europe, but concluded that the financial support was inadequate. A representative of the Agency for International Development, Dr. David Tilton, Chief of Research Division, Office of Human Resources and Social Development, visited the University in March, 1964, and discussed with members of the faculty AID research plans and University research interests. AID invited the University to submit a proposal for a program of assistance to the Association of Colombian Universities in planning the development of higher education there. This was done, but did not lead to a contract. A proposal for contract research for a special research group under the National Security Council which is examining U. S. development programs is now under consideration.

A contract for overseas educational assistance has been concluded during the biennium with the Agency for International Development, for assistance by members of the University's Department of Economics to the Facultad de Economia of the Universidad de los Andes, Bogota, Colombia. This contract was concluded in July, 1963, for a three-year period, but with expectation of renewal for an additional period of two or three years if mutually agreeable

to the parties. The main objects of the program are (1) assistance in establishing a graduate program leading (at least initially) to the equivalent of a Master of Art's degree in economics at a first-rate American university, and (2) strengthening of research activities of the Center for the Study of Economic Development at the Universidad de los Andes. Three members of the Minnesota Economics Department will regularly be in residence in Bogota on long-term (18-24 month) appointments, and an additional two short-term (3-6 month) visitors will be sent each year. Fairly frequent conferences involving North and South American economists will be arranged. The first member of the Department assigned to the Universidad de los Andes, Edward Foster, Assistant Professor of Economics, arrived in Bogota in August, 1963, and the first group of students entered the new graduate program in February 1964.

A second contract with the Agency for International Development, concluded in June 1963, involves educational assistance in ground water development courses by personnel of the School of Public Health. As these arrangements were made before the Dean of International Programs assumed his duties, the project has been administered solely by the School of Public Health and is described in that School's report.

(f) *Visiting Lecturers*—The Office of International Programs will from time to time arrange or sponsor visiting lecturers, often in collaboration with other units of the University. For example, it coordinated arrangements for the visit in April, 1964, of Dr. Hans Reif, Professor of German Government and Politics at the Deutsche Hochschule für Politik, West Berlin, and Deputy Speaker of the Berlin House of Representatives. Dr. Reif was the guest of Mr. Nate L. Crabtree, Vice President of General Mills, Inc. He delivered lectures upon the Common Market, European integration, and relations of East and West Germany, to University audiences in Minneapolis and Duluth and to several civic organizations.

(g) *Directory of Faculty with International Interests*—In order to provide information essential to expansion of international programs, the Office of International Programs is compiling a directory of those members of the University faculties who have well-defined teaching and research interests or special knowledge or experience relevant to international relations and area studies. The directory will present brief biographical notes concerning such interests and experience of more than 500 members of the faculties of all colleges and schools in the University. It is expected that this compilation will assist in the fuller utilization of faculty skills in the development of international programs, facilitate communication among members of the faculty concerning common instructional and research interests, and provide an accurate representation to the public and outside agencies of the University's competency and interests in the international field. The first edition will be ready for distribution in the fall of 1964.

University Council on International Programs; Related Committees—The Dean of International Programs has consulted with the President's *ad hoc* committee on expansion of international programs during the initial development of his activities. The *ad hoc* committee will shortly give way to a University-wide Council on International Programs, which will include representatives of all units having substantial international interests, whether in regular training programs, research, or continuing education. The composition of the Council has been determined, and the body will be convened at the beginning of the academic year 1964-65. As it will be a large body, it will probably employ an executive committee for interim business. The Council will include the principal officers assigned to coordinate international programs in colleges or schools, and the directors of international relations and area study centers and programs; therefore, it will be in a position to plan an integrated pattern of development which takes account of interests throughout the University.

Steps have also been taken to organize six University-wide committees, of which three are related to existing instructional programs in International Relations, Asian Area Studies, and Latin American Area Studies, and three to principal areas of interest in research, overseas programs, and future cur-

ricular development, i.e., the Impact of Technology on Relations Among Nations, Components of Economic and Social Development, Inter-Cultural Communication and Persuasion. The definition of these areas emerged from the statement of priorities in development of international programs formulated in response to questions by the Ford Foundation, and therefore provides a framework for planning which coincides with the areas selected for immediate emphasis. These committees have held initial meetings and will begin the elaboration of their programs in the fall of 1964.

College Organization for International Programs—Four major units of the University are already actively developing organization for planning and conducting their international programs; others may be expected to follow. In each of three of these, the Institute of Agriculture, the College of Education, and the College of Liberal Arts, there is now a budgeted position for a member of the faculty with half time released from teaching for service as coordinator of international programs. Only in the College of Education has a coordinator, Professor Gordon I. Swanson, already been appointed, but an active canvass is being made by faculty committees in the Institute of Agriculture and the College of Liberal Arts for suitable coordinators. In the School of Business Administration independent action was taken by Dean Paul V. Grambsch during the academic year 1963-64 to appoint Wallace F. Doerr as Assistant to the Dean for development of an international business program. Financial support for this position came in part from a grant by Northwest Bancorporation, but the position is not yet regularly budgeted. No funds were available at the end of the year for continuation of the appointment, and Mr. Doerr resigned to accept another position. As the interest of the School of Business Administration in the development of an international business program appears to require the services of a planning officer, it is to be hoped that a budgetary allocation for this purpose will be made.

In the four units mentioned there are also faculty committees or councils with responsibility for international programs. In the case of the College of Liberal Arts there has long existed an Interdepartmental Committee for International Relations and Area Studies, with subordinate committees for the General International Relations Program, for area study programs—Northwest Europe, East and South Asia, Russia, Latin America—and for Foreign Service Training, and Intelligence Research Training. These committees, although drawn primarily from faculties participating in the interdisciplinary programs they administer, which are within the College of Liberal Arts, also include administrative officers and some representatives of professional and technical schools. In the case of the Institute of Agriculture, the College of Education, and the School of Business Administration, faculty committees brought together to formulate proposals for the President's *ad hoc* Committee on expansion of international programs have continued as standing committees, or, in the case of the Institute of Agriculture, as a standing Council for International Agriculture. The activities of these college-level organizations are indicated in the following paragraphs:

(a) *International Program, College of Liberal Arts*—Routine administration of the existing programs of training in international relations and area studies is centered in the Center for International Relations and Area Studies, which acts in lieu of a departmental office for these interdisciplinary programs. The activities of the Center are included in the report of the College of Liberal Arts and therefore will not be noted here.

The standing committees mentioned above, which direct the international relations and area study curricula, have been actively engaged during the biennium in reviewing these programs and considering their possible redirection and expansion. At the undergraduate level these discussions have centered upon reaching a broader range of students with general education courses in international relations, upon enrichment of upper division major programs by the addition of more materials contributed by the professional and technical faculties, and upon honors courses in these fields. At the graduate level attention has been given to the possibility of developing doctoral programs in overseas administration, which might include strong components upon the problems of development and the influence of technology on in-

ternational relations. Efforts are being made to secure support for the development of some of these ideas through research and faculty seminars.

(b) *International Programs, Institute of Agriculture*—Concurrently with the beginnings of active discussion by the President's *ad hoc* committee on expansion of international programs, the Institute of Agriculture formed a large faculty committee on the St. Paul Campus. Dean Harold Macy, in his basic communication of June 4, 1962, to members of this committee, authorized it to formulate proposals for research, educational programs, extension activities, and overseas projects in the field of international agriculture, and to serve as a clearinghouse of information concerning proposals and developing programs. The committee continued very actively to discharge these functions until January 1964, when it was superseded by a permanent Council for International Agriculture.

In addition, Professor (now Dean) Sherwood O. Berg, and Professors Philip M. Raup, Elton L. Johnson, and Will M. Myers, took an active part in the discussions of the President's *ad hoc* committee. Professor Raup also served as an executive officer of this committee, and in this capacity visited a number of universities which have well-developed international programs and reported in detail the methods employed there in organizing and obtaining support for these programs. This material was important in the committee's discussions of new organization and objectives.

The Institute of Agriculture committee reviewed a large number of proposals for research and expanded curricula submitted by members of the faculty on the St. Paul campus, and developed from these an integrated set of proposals which was submitted to the President's committee as a basic plan for the development of a program of international agriculture at the University of Minnesota. This plan includes a number of novel features, including a major curriculum in international agriculture, the formation of a Center for International Agriculture, and a variety of proposals for research and overseas educational assistance.

During most of the biennium the committee was chaired by Professor Elton L. Johnson, who continued to serve as chairman of a permanent Council for International Agriculture formed in January 1964. However, Professor Johnson began a year's leave of absence in June, 1964, to serve in Washington, D.C. as Director of the International Rural Development Office of the Association of State Universities and Land Grant Colleges. With the coming academic year it is expected that a coordinator of international programs in the Institute of Agriculture will be appointed. A faculty committee has already submitted a list of recommended persons for administrative consideration, and has drafted a detailed set of suggested functions of the new officer. These include coordination of international program activities of the St. Paul campus, improvement of the international component of resident instruction and continuing education, coordination of research related to international agriculture, and improvement of faculty competence in international relations. The coordinator will be director of a Center for International Agriculture, already established in embryo form by provision of a secretary. He will work with the Council on International Agriculture in developing the expanded program.

In addition to its own discussions, which have centered upon program planning, the Council has created under the chairmanship of Professor Raup a committee to arrange seminars upon matters of concern to the faculty involved in international programs. Because of expected participation in a program of assistance to the agricultural extension system in Chile, the committee has to date presented materials relating to Latin America, as follows:

March 17, 1964—Professor Emeritus Lowry Nelson, Department of Sociology: "Some Social Aspects of Agrarian Reform in Latin America."

April 21, 1964—Professor Orlando Sepulveda, Director of the School of Sociology and the Sociological Research Institute, University of Chile: "The Urgent Need for Sociological Research in Rural Areas of Chile."

May 27, 1964—Professor Oswald Brownlee, Department of Economics: "Alternative Approaches to Educational Development in Argentina, Chile, and Colombia."

Another activity during the second year of the biennium has been the organization of an informal class in conversational Spanish for faculty and

wives planning study or research in Latin America. This instruction will be continued next fall. Two audio booths have been installed for faculty language training.

(c) *International Programs, College of Education*—The College of Education has been active during the biennium in considering new programs in international education. Such planning now centers in the office of the Coordinator of International Programs, Professor Gordon I. Swanson, an expert in agricultural education, whose experience has included service with UNESCO and as a member of a World Bank team which appraised and established educational investment priorities in Afghanistan. Other members of the College of Education faculty have well-established teaching and research interests in international education. Dr. Otto Domian was mission chief of a UNESCO educational planning mission to Brazil in the summer of 1963. Dr. Mary Corcoran participated in a study of higher education sponsored by the Carnegie Foundation in collaboration with the International Association of Universities. Professor Robert H. Beck has long offered courses in comparative education, and has engaged in research in cross-cultural studies in education.

Present planning within the College looks to expansion of international materials in the curriculum and the addition of courses, seminars, and workshops on educational development. Research proposals have been formulated which would enlist a multidisciplinary staff from Education, Economics, and Political Science in examining problems of educational development in relation to economic and social development. Other proposals involve cross-cultural research. The College hopes increasingly to involve faculty in aspects of international education which will contribute to the improvement of instruction.

(d) *International Programs, School of Business Administration*—During 1963-64, the School of Business Administration undertook systematic appraisal of the long-standing interests of its faculty in international business. As a consequence, the School's objectives in this area were formulated in the following terms:

1. To develop and enhance the capability of the faculty in providing basic data, teaching basic concepts, and evaluating major developments that affect international business behavior;
2. To widen student horizons by expansion of the international dimension in courses, and to increase the number of courses that have primarily an international focus;
3. To expand research conducted on international aspects of various phases of business development and administration;
4. To cooperate with other parts of the University in cross-disciplinary studies of international relations and area studies, and in studies of human resources and their development;
5. To facilitate use of School resources relating to international business by the Upper-Midwest community for the purpose of stimulating education, business advancement, and economic growth; and
6. To cooperate with private and governmental international efforts to expand and improve the teaching of business administration.

The focus of the School is not confined simply to business operations in foreign contexts, but is concerned equally with the effects of world-wide developments upon domestic business decision-making. It considers the understanding of foreign developments of value not only to the businessman who goes abroad, but also to the executive who functions at home. In addition, the School seeks to make its appropriate contribution to socio-economic development through technical assistance activities.

During 1963-64 the Assistant to the Dean for international business programs, working in conjunction with a faculty committee, developed the following activities:

1. Organization of a series of faculty colloquia with executives of Upper-Midwest firms actively engaged in international business, with the object of providing an intensive faculty exposure to the problems these companies encounter in such operations. These seminars included presentations by:

William F. Mitchell, Vice President of the International Division, and J. Carl Clamp, Director of Corporate Development, General Mills, Inc.
 Kingston Fletcher, Procter and Gamble Company Manager in Venezuela.
 Goodrich Lowry, President, Northwest Bancorporation, and James Smith Bush, President and Managing Director, Northwest International Bank (a subsidiary of BANCO).
 E. H. Church, Vice President, International Division, Minnesota Mining and Manufacturing Company.
2. Technical discussions with visiting groups of foreign business leaders, e.g., 14 executives touring the United States under auspices of the Japan Productivity Center.
3. Introduction of a course in international man-power development and utilization.
4. Participation in the Regional Export Expansion Council of the U. S. Department of Commerce and the White House Conference on Export Expansion.
5. Planning of research on manpower development and utilization, and on the economics of educational development.
6. Planning of a student organization for students training for international careers.

Continuing Education Programs—The report of the World Affairs Center, as a unit of the General Extension Division, appears elsewhere. The Center has been very active in preparing for the President's *ad hoc* committee on expansion of international programs materials on continuing education in world affairs. Its proposals for new programs in this field were submitted to the Ford Foundation with the general report prepared by the *ad hoc* committee. The Foundation indicated it did not have a program within which such proposals could be considered, but invited the submission of a position paper upon which it might found discussion of the desirability of establishing such a program. This position paper is now being planned.

Foreign Student Programs—The work of the Office of the Foreign Student Adviser, as a unit of the Office of the Dean of Student Affairs, is described elsewhere. Members of the staff of that office have participated actively in the work of the President's *ad hoc* committee on expansion of international programs and have presented proposals for orientation in depth of foreign students, terminal reorientation, and more effective adaptation of technical training to conditions in foreign countries. They have also formulated research projects which could contribute materially to the effectiveness of foreign student programs.

—C. H. McLAUGHLIN, *acting dean*

THE LAW SCHOOL

Enrollment Pressures—During the biennium the Law School's enrollment increased by 59%, from 327 in 1961-62 to 520 in 1963-64. This increase occurred in spite of the tightening of admission requirements in each year of the biennium. Even holding the first-year class at approximately its present size of 250, the Law School enrollment will continue to increase to 570 in 1964-65 and to 640 in 1965-66, an increase of approximately 100% in four years. It should be noted that this 100% increase in Law School enrollment will occur

before the heavy bulge in college enrollment, starting with the freshman college class in the fall of 1964, will complete the four year college course and be ready for Law School and other professional programs.

Building Needs—In making the above forecast of enrollment we have assumed a first year class remaining at its present level of 250, because the present Law School physical plant cannot possibly take care of more than the total enrollment such a class will produce when projected over three years, particularly in view of the lower attrition rate that results from higher admission standards. Even a beginning class of 250 will push our total enrollment well beyond the capacity of our building. The implications are obvious. Until a substantially enlarged law school plant is provided, it will not be possible after 1967 or 1968 to give a legal education to many college graduates who are qualified and have a right to expect the University of Minnesota to provide them with legal training. Both the Law School administration and the University administrative officers recognize this problem, and are struggling with it in the light of the many other competing needs for new buildings in the total University program.

Student Financial Aids—During the biennium, lawyers, law firms, and business corporations with legal departments continued to give generously to support a substantial Law School scholarship program, which was augmented by a number of endowed scholarships. Approximately \$35,000 in funded scholarships was awarded each year. But the most significant development in financial aid during the biennium was the establishment of a loan program with a local bank, which made available to second and third year students annual loans of up to \$1,000 at a low interest rate, with close to \$100,000 being loaned annually on this program. It is supported by the Law School Alumni Association, which deposited with the bank as a guarantee fund 3% of the amount to be loaned. The result has been to relieve very serious financial problems for large numbers of students, enabling them to devote full time to the truly full-time demands of their law studies.

Salaries—The Law School is faced with a serious salary problem as a result of recent salary progress in law schools with which it competes for staff. Reasonable progress has been made in Law School salaries, but the competing law schools are presently moving ahead rapidly. More funds must be made available in the future than in the past biennium to enable us to retain the excellent faculty that has been added to the Law School during the past decade. With rapid expansion of faculties planned in the competing schools in the next few years, and substantially better financial outlook in such schools, the Law School cannot continue to stem the tide of the constantly attempted raids on its faculty unless sufficient funds become available to give the faculty members confidence that they will not suffer serious financial hardship by remaining at Minnesota.

Tutorial Instruction—All courses but one in the Law School are under the direction of a full-time law professor; but with a ratio of 24 students to each full-time faculty member, it is impossible for the full-time faculty member to prepare and teach his regular courses and also to give adequate individual attention to the development of skills of each student in legal research, writing, and analysis. To help provide genuine tutorial instruction to each student, the Law School has built up over the past several years a large part-time faculty of practicing lawyers and judges acting as instructors of individual students in legal research, appellate advocacy, and trial work. During 1963-64 approximately 35 practicing lawyers and judges served in this capacity, each dealing with a small group of students and giving to each student individual attention in developing his practical skills as a lawyer. The cost of this program is small, for the honorariums are nominal, but the benefit is very great as a result of the sacrifice of time, energy, and skill given to this type of instruction by many members of the bench and bar of Minnesota.

—WILLIAM B. LOCKHART, *dean*

COLLEGE OF LIBERAL ARTS

Enrollment in the College, like that in the University, continued its rapid increase. In the fall of 1962 the College enrolled 10,720 students; in the fall of 1963, 11,133. Corresponding figures for the preceding biennium were 8,096 and 9,688. For the biennium, total enrollment in the College was larger than the 9,751 of the preceding peak year—the post-war year of 1946. Most of the increase in enrollment came from a dramatic lowering of the drop-out rate, since the number of new freshmen, of new students from other institutions of collegiate rank, and of adult special students had been substantially the same for the last three years.

The increase in number of students served was met by the College in the same way as in the preceding biennium: by increasing the size of sections and by adding part-time teaching assistants and instructors when possible. Because of the limitation of funds available to the College, the faculty was not substantially enlarged. As a result, teaching loads remain heavy and the ratio of student teaching hours to faculty high. The College took steps to make more efficient use of classroom space and to spread class schedules over a greater portion of the time available. Extension of the use of closed circuit television helped with the problem; in some cases a course was offered in several rooms at one time and repeated later by re-play of the television tape. Results of this method are considered generally satisfactory; but it can be expected to meet only certain types of increased-enrollment problems. The number of staff members was far below the needs projected and the actual needs. Problems of adequate staffing have been especially heavy in Freshman English and in language courses, but they are common in most departments of the College.

The reorganization of the College within the structure of the University proceeded according to plans begun during the preceding biennium. The Arts College Department of Mathematics was consolidated with the IT Department of Mathematics in the Institute of Technology, though it continues to serve the College's needs fully; the Department of Geology and the Department of Astronomy moved to the Institute of Technology. The Department of Economics moved from the School of Business Administration to the College. At the end of the biennium, a College of Biological Sciences was established by the Regents, thus removing Zoology and Botany from the Arts College budgetary and administrative roster. Under the new organization plan, the interrelationships among all colleges are strengthened, and the "functional" plan that facilitates inter-college student programs was put into operation. The establishment of the office of assistant vice president in charge of liberal education throughout the University aided in the effectiveness of the plan.

Research—Support of the College's research activities continued to expand. In the two-year period, grants from outside sources for research by departments of the College amounted to more than \$1,900,000. In 1962-63, 130 grants were made; this figure compares with 109 grants in the first year of the preceding biennium, and 75 in the year 1958-59. But these figures, suggesting impressive growth in research, do not measure the entire research activity of the College. They include only the projects supported by outside funds. Most members of the College staff undertake research on an individual basis without formal research budgets, or with small grants from departmental or other University funds. The productivity of this kind of research is indicated by the reports of faculty publications and activities in another section of this bulletin and in University files.

Curriculum—Principal curricular changes in the College during the biennium were in revision of several departmental programs and in development of the honors program initiated in the preceding biennium.

Modifications of curricular patterns were made by the Art Department, the Speech and Theatre Arts Department, the Music Department, and the Political Science Department. Though most of the modifications do not involve extensive course changes, renumbering and regrouping of courses will make student program-building easier and more satisfactory. The develop-

ment of a number of courses in the theatre arts curriculum has been made possible through the cooperative program with the Tyrone Guthrie Theatre and the McKnight Foundation. A development of particular significance was the expanded program for religious studies in the College. A faculty inter-departmental committee will continue work toward extension and integration of courses in various aspects of religion.

In most departments of the College, departmental honors programs have been established as outlined earlier by the Honors Council. Under these programs, superior students will be able to achieve not only college honors at graduation but also departmental honors. As a supplement, the system of "honors seminars" instituted in early 1962 was expanded; by the end of the biennium, seven to nine such seminars for candidates for graduation with honors and other high-ability juniors and seniors were offered each year. The number of honors sections of courses in the Lower Division was expanded, thus increasing opportunities for freshmen and sophomores of high ability.

The College Curriculum Committee continued throughout the biennium its work on revision of the requirements for the Bachelor of Arts Degree, and was to present a new plan to the College in the fall of 1964. The proposal increases emphasis on foreign language and on mathematics and logic and widens the opportunity for students to gain educational experience in areas outside their major fields.

The College continued and made somewhat more rigorous the requirement that candidates for the Bachelor of Arts Degree must pass an English proficiency test. The need for this requirement, in the opinion of the curriculum and English committees—with the support of the College's general assembly—continues.

In general, curricular change in the College has been that of "normal growth"—modification of existing courses to take advantage of new materials, introduction of a limited number of new courses as staff members with special proficiencies become available or special needs arise, and the like.

Physical Facilities—The biennium has been a period of change and growth in the College's physical facilities. Principal among the changes are those moving a number of departments of the College to the West Bank campus and the reassignment of departments on the East Bank thus made possible. Most of the College's social science departments moved into the Social Science Building: Political Science, History, Geography, Sociology, School of Social Work. At the same time the Department of Economics, which was transferred from the School of Business Administration to the College, moved into the new Business Administration Building on the West Bank. These changes vacated most of Ford Hall and all of Vincent Hall on the East Bank. Into the new and expanded facilities in Vincent Hall went the English Department and the American Studies program. Philosophy and Humanities moved into Ford Hall; Anthropology, which remained in Ford, expanded its office and laboratory space. Mathematics, no longer a department of the College, also moved to Ford. Related changes were the consolidation of the Communications program on one floor of Temporary North of Mines, and the expansion of Psychology laboratory and research space in Westbrook Hall, the Psychology Building, and TNM.

The College's classroom facilities were greatly enlarged by the opening of the Classroom Building on the West Bank. Foreign language departments gained much needed additional space in Folwell Hall.

College offices were expanded and relocated along with the other changes, to achieve a decentralization and greater efficiency in student service. An Upper Division office has been established in the Social Sciences building for social science majors; another for humanities majors in Folwell Hall. Lower Division offices have been assigned considerably expanded space in Johnston Hall, and an Honors Program is established there.

Among anticipated changes are the consolidation and expansion of Art Department facilities in a new West Bank location and major expansion of the language laboratories in Folwell Hall. Problem areas the College is working on include the need for much expanded laboratory and other space for bot-

any and zoology, and the need for extension of rehearsal facilities for band and orchestra.

Student Personnel Programming—Several significant changes in the organization of the College, achieved during the biennium, promise to make possible more effective counseling to students in registration and program planning. Both Lower and Upper Division student personnel services have been organized under a single assistant dean for student personnel. College offices have been decentralized so that Upper Division students will for the most part be served by offices close to their classrooms and major advisers, and Lower Division students in three offices, rather than one, to aid in meeting increasing enrollment problems. It is expected that these arrangements will lead to closer personal relations between students and advisers, shorter lines for registration, and less referral of a student from one office to another. The appointment of associate deans for humanities and social sciences will facilitate the improvement in services, especially to Upper Division students. The establishment of a director of honors is expected to bring into sharper focus and better coordination the numerous special opportunities for superior students, many of which have been offered before. It will also facilitate development of individualized programs for high level students. An honors program office has been established.

No substantial change in standards of admission or retention has been made in the College; but problems arising from increasing enrollment are constantly under study, with the purpose of making equitable and effective whatever adjustments may become necessary. A slight change in probation procedures which warns Lower Division students of unsatisfactory performance earlier than heretofore is expected to serve such students well. The calibre of students entering the College continues to be high, and the general levels of performance good.

Faculty and Staff—Though the broad pattern of faculty and staff needs has not changed much from one biennium to the next in the last decade—increased competition and constantly rising salary levels for the kind of staff the College wants, coupled with the need for many more staff members as enrollments rise—the College position through the 1962-64 biennium on these matters has been more difficult than ever before. The demand for teachers and scholars of outstanding capacity is nation-wide, and the demand for members of the College staff from other institutions has continued heavy.

The College has been reasonably successful in holding a great many of those who received tempting offers from other institutions; and it has been reasonably successful, too, in attracting staff members at this level. But it has inevitably lost a number of men whose departure leaves gaps that are often very hard to fill.

The policy of seeking to attract able younger staff members continues to be major in the College's planning. The degree of success in getting such men and women—which has been considerable—will have much to do with the future strength of the College. Areas in which it has been particularly difficult to find suitable new staff members have been English and languages (where the demands become especially large as enrollment increases) and some of the social studies. It is not easy, however, in any area.

The salary scale has advanced in the biennium, but it has not kept pace with the increased levels in competing institutions. The College foresees growing difficulty in attracting the kind of staff it must have if this problem is not met. Certain advances in fringe benefits during the biennium have been helpful, but others must be made.

Needs—Because of the unprecedented problems growing out of the great advances in enrollment in the College, major attention must go in the future (as it has in the past) to meeting enrollment increase demands. In many cases, problems of this kind must be given priority over programmatic developments; and to continue this priority for too long will mean inevitably to weaken the College's progress. Consequently the College will continue to urge that support for research and curricular development be provided along with support for increased high level staff.

The College's requests for budgetary support of all kinds have been most carefully screened, and are properly characterized as "modest." They are, however, minimal if the growth of the College is not to be slowed. The needs include additions to the secretarial and non-teaching staff; some of the problems in student service have been met by improved organization within the College, but a fairly constant ratio must be maintained between the size of the student body and the size of the service staff.

Among particular problems are expected to be the expanding needs of Freshman English as the number of new students increases; the needs of the language departments for staff, development of special programs, and improvement in laboratory facilities; the special problems of expansion of certain languages of special interest to the University's service area, such as the Scandinavian group; the increase in the funds for teaching assistants (necessary to continue the flow of high-level graduate students to the University) in all departments.

Though advances in physical facilities—classroom space, teaching aids—have been made in the past biennium, they are moving at a pace no faster than enrollment and the necessities of excellent teaching demand. Facilities must continue to expand and improve. The needs in the fields of political science, history, geography, and English are especially to be noted. The need for more faculty office space is crucial; indeed the addition of needed staff will depend to some extent upon the availability of office space in which to house them.

—E. W. ZIEBARTH, dean

THE UNIVERSITY LIBRARIES

The Library's Resources—The University Library added 148,928 volumes to its holdings in the biennium; the comparable figure for 1960-62 was 120,003. Total holdings of all libraries throughout the University on June 30, 1964 were 2,296,112 volumes. Of this total, 2,170,738 volumes are in libraries on the Minneapolis-St. Paul Campuses; 14,996 volumes comprise the holdings of the University of Minnesota, Morris, Campus; 92,926 are housed on the Duluth Campus; and the remainder are located at University Schools and Stations elsewhere in the State. Since the 1960-62 biennium, the rank of the University in size of collections among institutions of similar size dropped from ninth to tenth place.

Among noteworthy additions to the Library's collections were items that came to the University Library's Kerlan Collection from Dr. Kerlan's Washington, D.C., residence following his untimely death. Other valuable acquisitions made possible by generous gifts of friends of the University include significant additions to the Bell Collection in the history of trade, works in medical history, a rare British "Little Magazine," books on Minnesota history and history of the West, a sizeable collection of European and American History, a gift in the fields of literature and humanities, and a collection of archives consisting of manuscripts, reports, newspapers, and correspondence of recent immigrants to America chiefly of Eastern and Southern European origin.

Among other notable accessions was a private collection of works gathered by an English gentleman in his travels through Europe of largely Italian books, many in original wrappings, of the 16-18th centuries, known as "The Grand Tour Library." Through the efforts of Professor Clarke Chambers, of the History Department, negotiations were completed to acquire the extensive archival files of the now defunct publications *Survey* and *Survey Graphic*. To augment our extensive holdings of South Asian materials in the Ames Library of South Asia, the University of Minnesota was designated as one of ten institutions to receive one set of all publications acquired from India and Pakistan under the provisions of Public Law 480.

Physical Plant Developments—Among the changes in the housing of library units was the recent completion of two additional floors in Diehl Hall for the Bio-Medical Library. This expansion will assure additional shelving for the growing collection and will more than double the available

seating in the all-night study area. The new space will also make available much needed general study facilities as well as carrels and studies for faculty-graduate use. Included in the new addition is a special History of Medicine area designed to house the increasing number of rare books in this field acquired through gift monies. Funds for equipping the two new levels are expected soon, and plans for furnishing the space are going forward.

The West Bank Library is a new unit occupying space on almost the entire third floor of the Classroom Building. It provides some 6,000 books and other materials for class-related use, and seating for 316 readers. It is the temporary library facility serving this part of the campus until the new West Bank Library is constructed.

Several departmental libraries were shifted to new, expanded quarters. The Music Library moved into newly remodeled space in Scott Hall to achieve some gain over previously inadequate facilities. Its space requirements have not been completely met in this move, but since the Music Department is not able to satisfy its own pressing needs for space in this building, no more room could be allocated to the library. The Map Library was moved from the basement of Johnston Hall to the fifth floor of the West Bank Social Science Building where it is more readily accessible to the staff and students of the Geography Department. And at the end of the biennium the Public Administration Library was moved from the basement of Walter Library to the Classroom Building on the West Bank Campus. In this location it will maintain its immediate adjacency to the Municipal Reference Bureau. It also is more accessible to other interested social science academic departments on the West Bank.

The installation of an after-hours book return station in the vestibule of the West ground-floor entrance to the Walter Library was among the physical improvements within the main library. Others are the installation of a ventilation system that greatly improved air circulation in the Reference Room, the installation of adequate overhead light in the Periodical Room to permit the removal of individual table lights, and the remodeling of Room 105 for Library Administration use.

The approval of first phase construction funds for the West Bank Library in the biennial legislative session has great significance for library service at the University. The library staff has devoted many hours in the second year of the biennium toward planning a structure that will best serve the needs of the expanding University on the West Bank Campus. The building requirements statement, *Program for the West Bank Library*, was prepared for the Architect for use in planning the building details to effectively combine all of the functions necessary for library service on this campus. The preliminary building plans are approaching a final state of approval. The ultimate financing of the building is still fraught with uncertainties, however, since the possible availability of Federal funds through the Educational Facilities Act has yet to be determined. Also, before construction begins additional legislative appropriations must be made if a building with sufficient capacity to house a viable library is to be realized.

Plans for new Veterinary Medicine Library quarters on the St. Paul Campus have been approved, and it is expected that construction will begin soon on the building that is to house this library. Other building plans on the St. Paul Campus that will provide an increase in library space are building projects for the Bio-Chemistry Department and the School of Forestry.

Operational Highlights for the Biennium—The use of the libraries and collections continues to show sharp increases from year to year. The increases are most obvious at the service desks in the various library units. At some of the service desks where one person was assigned to help patrons before, during the second year of the biennium two persons were needed to handle the work load. The increases have been noted at all levels of university clientele, from the beginning freshman student to the graduate, faculty, and research fellow. Increased demands have also been experienced from outside the University. From the business and professional community within the Twin Cities area, a steady rise in the number of requests for assistance and information was received at all service points in the library system.

Increased pressure on the staff and collections has also resulted as a consequence of many more requests for inter-library loans. These requests, both from institutions in the State and from institutions throughout the country, increased by 28% from the first to the second year of the biennium.

As examples of the magnitude of the increased use in some of the library departments, the Engineering Library showed an increase of 23 per cent in the circulation of books to library patrons between the first and second year of the biennium, the Education Library showed an increase of 68 per cent, and a new library unit, the West Bank Library, showed an increase of 49 per cent. Several libraries have shown recorded attendance increases from 12 to 63 per cent in the biennium.

The increased activity at the service desks and the crowded seating conditions suggest an increased need for the libraries' services. Whatever the factors that have brought about the change in habits of library use, the anticipated enrollment increases can be expected to add an additional strain on library facilities.

The University of Minnesota was one of several institutions to benefit by the provisions of Public Law 480 that provided for the use of United States-owned foreign currency to acquire and analyze foreign publications for selected American research centers. Under this program, the Library received publications of the South Asia area. These publications are important additions to the valuable resource in the Ames Library of South Asia.

Another program, begun in the past year in close cooperation with the Minnesota Historical Society Library, is to collect the archives of numerous immigrant organizations, including those concerned with labor, education, politics, and religion. The appointment of a full-time curator in January, 1964, will assure the continued acquisition and organization of these elusive and unusual materials.

Among the projects completed in the biennium, several have contributed significantly to the more efficient use of library space and collections. A major move in the Walter Library involved the shift of the Acquisitions Department from quarters in the basement and the first floor to the third floor. The coordination of the work of the Department has been greatly improved by the shift, which has brought together into one area all of the Acquisitions divisions. The move from the first floor also released much needed space to the Cataloguing Department to relieve crowded working conditions in that unit.

Another major move took place in the Walter Library stacks that house the bulk of the University Library holdings. The shift involved the relocation of material in congested areas of the stacks to areas opened by the move of a substantial amount of material to the Library storehouse. The extensive relocation achieved, as a result, a grouping of subject categories and a grouping of materials related by format on adjacent stack levels. The move not only allowed space for much needed expansion room but also greatly simplified the shelving and necessary relocation of some of the materials in the stacks.

Another project, the issuance of the compilation, *Newspapers in the University of Minnesota Library, A Complete List of Holdings*, printed in February, 1964, also deserves mention as a notable accomplishment in the biennium. The list, which contains a complete record of the Library's newspaper holdings in the original, photo copy, microprint, and microfilm editions, as of July 1, 1963, is a valuable reference tool for scholarly research and is the fourth of such lists issued by the University of Minnesota Library.

The reproduction of catalogue cards representing holdings in the Education Library was completed at the end of the biennium, and now gives the Education Library a complete catalogue of its collection.

The loss of valued staff members by resignation continued to be of concern to us in this past biennium. These losses included the Chief Acquisitions Librarian, the Assistant Acquisitions Librarian, the Assistant to the Director, and the Librarian of the St. Paul Campus. The competition for competent, experienced librarians shows no signs of easing, and the salaries offered by other institutions to attract some of our best people continue to climb from year to year. In the past the inability to recognize outstanding librarians with salary increases on the basis of individual merit has been a distinct handicap

in recruiting and retaining well-qualified staff. Since July of 1963, however, that situation was improved when a group of professional positions were transferred to academic status. The positions singled out for the change require a greater degree of subject and/or language competence or organizational ability in supervisory positions. The flexibility permitted by the guidelines for academic appointments will allow recognition of unusual knowledge or talents in recruiting and retaining competent staff members.

Needs for the Future—The development of plans for a new West Bank Library is noted above. Funds were approved for only a portion of the building. Because of the disproportionate costs of the initial phase of construction, available funds will allow construction of insufficient assignable square footage to accommodate the extensive book resources required for faculty-graduate research and reading rooms and auxiliary service units for undergraduates. If the new library is to meet the needs of academic departments transferred to the West Bank Campus, the importance of a completed structure cannot be overemphasized. It is hoped that funds to achieve the goals outlined in the West Bank Library program will be forthcoming in the near future so that construction can be started on an adequate library building.

The increased activity at the various public service desks reflects a demand on available space and available personnel out of proportion to the enrollment increases during the biennium. The need for additional staff to cope with the increased work load generated by the heavier use is urgent in such units as the Bio-Medical Library, the Reference Room, the Education Library, and the Engineering Library. However, the results of increased pressure on the collections also means additional staff to search for missing volumes; it means more time must be spent in the Acquisitions Department to replace missing or worn-out volumes; and it means additional work for the Cataloguing Department to process replacement volumes. Whatever the factors responsible for the increased pressure on library facilities and resources, the fact is that the level of use has increased substantially in the past several years and does tax the available resources. To meet the increase, the Library seeks support for expanding the book budget, staff, and space.

With reference to the book budget, a recent study has identified five categories of need: unordered faculty requests; needs in temporarily neglected subject areas; new areas of activity; additional copies and replacements; and increased publishing activities and rising costs. These needs represent an accumulation of unfilled requests amounting to at least a quarter of a million dollars annually. Because of increased student use of the collections, a proportionately greater amount is spent each year for additional copies and replacements, and a proportionately smaller amount of funds and staff time in acquiring the more important but less easily located scholarly works.

The strain of increased library use is apparent in the lack of adequate seating to accommodate users. In the Walter Library, the situation is particularly critical because students appropriate space on the stairways and lower hallways to form a human obstacle course in their search for seats. More study space is urgently needed throughout the campus to relieve the Walter Library from the overcrowded conditions that presently exist and certainly will get worse.

—EDWARD B. STANFORD, *director*

COLLEGE OF MEDICAL SCIENCES

It is my privilege to submit the following report concerning the activities of the College of Medical Sciences for the period July 1, 1962 to June 30, 1964. The College of Medical Sciences includes as its major units the Medical School, the School of Nursing, the School of Public Health, and the University Hospitals. Since separate reports, submitted herewith, have been prepared by the Directors of the last three units, this section of the report will deal largely but not exclusively with the Medical School.

Undergraduate Medical Education—The number of applicants seeking admission to the freshman class in Medical School has increased each year for the past six years. The 1963 entering class was selected from 612 appli-

cants, and the 1964 class from 689. Limitations of facilities and staff preclude the acceptance of more than 150 students each year, with the result that an increasing number of qualified applicants will have to be turned away. Medical School admission requirements have remained unchanged during the biennium, but with the increasing size of the applicant group, the academic performance level of successful applicants has risen.

The revised junior-senior curriculum in the Medical School, introduced in 1960, has continued with some minor modifications. The Comprehensive Clinic Program, a six-month experience centering in the out-patient clinic during the student's fourth year, continues to provide the student an opportunity to follow his patients and to assume significant responsibility for their medical care.

Another feature of the revised curriculum was the combining of third and fourth year Medical School classes for lecture purposes. This change did not prove to be satisfactory and has been dropped. Separate lecture courses are now held for juniors and seniors.

The Department of Physiology, with the support of the Hill Family Foundation, initiated a new course, "Biology for Engineers," which has been received most favorably. It introduces the engineering student to fundamental biologic concepts and will, in time, aid the development of specialists in bio-engineering, a new and rapidly expanding field.

Graduate Medical Education—The University of Minnesota Medical Center and the hospitals affiliated with it continue to attract large numbers of graduate students in the various medical disciplines, and our program is one of the largest in the nation. Its size in no way impairs its quality but rather makes it possible for us to offer a better, more complete program than would be the case if the program were smaller. Registration in the various medical graduate programs amounted to more than 600 students each year during the biennium. Approximately 25% of these students had major fields of interest in the basic medical sciences, and the balance in the various clinical departments. In addition to the University of Minnesota Hospitals, the following hospitals participated in graduate training in the clinical specialties: Hennepin County General Hospital, Minneapolis Veterans Administration Hospital, Ancker Hospital in St. Paul, and several private and specialized hospitals in the Twin Cities.

Research—Research, teaching, and service are inextricably intertwined in the College of Medical Sciences. Notable research is going forward in almost every unit of the College. Our ability to attract outside support for research and research training constitutes one measure of the scientific stature of our faculty. During the year just past, we received research grants in an amount exceeding \$9,000,000, while approximately \$3,500,000 in addition was received in support of research training. Some of the more important research activities of general interest include the following.

Both the Departments of Medicine and Surgery participate in important cancer chemotherapy studies. A number of compounds have been found to have the effect of decreasing or stopping the growth of cancer cells. Cancers affecting the bone marrow and blood-forming organs and cancer of the breast are particularly susceptible to such agents, but a number of other tumors can also be affected by some drugs. Careful, extensive clinical evaluation is required to determine which drugs are truly useful. Such studies are going forward in the Masonic Memorial Hospital. In the Department of Pathology, studies are underway which hopefully will lead to the development of compounds which will protect man against certain cancers that appear to be induced by chemicals.

Research in the cardiovascular field continues to account for a very large segment of our research activity. The School of Public Health and the Departments of Medicine, Surgery, Pediatrics, Pharmacology, Radiology, Physical Medicine and Rehabilitation, Physiology, and Laboratory Medicine all have substantial research programs in this field. Basic studies include investigations into the nature of control of the small blood vessels, the biochemical basis for the contraction of heart muscle, the actions of various drugs which enhance the force of the heart's contraction, and the materials present in normal

kidneys which seem to protect against the development of high blood pressure. Clinical studies include continuing modification and improvement in open-heart surgical techniques, the analysis of electrocardiograms by the use of computer techniques, the effects of inhalation of cold air on heart function, and radiologic methods of measuring blood flow.

Organ transplantation, after a number of years of careful investigation in the laboratory, has been carried out in human beings within the past year in our Medical Center. A number of kidney transplants have been done, with individuals with advanced kidney disease receiving a kidney from a healthy donor, usually a very close relative. To date 13 kidney transplants have been undertaken, with only 4 deaths and with 9 patients surviving for periods up to one year.

Another important area of study relates to the effects of drugs on behavior. The field of psychopharmacology has grown immeasurably during the past decade. Members of our faculty in the Department of Psychiatry are carrying out extensive clinical studies relating to various kinds of drugs and how they affect neuroses and psychoses. Basic behavioral studies are being carried out by members of the faculty of the Division of Clinical Psychology, and in the Department of Pharmacology the biochemical and physiological effects of such drugs are studied.

In the Department of Pathology, fascinating studies on periodicity—that is, the periodic variations of certain body functions in man and animals—are being carried out. This work has a number of important implications with respect to future manned space flights. The School of Nursing has also participated in these studies.

Continuation Medical Education—Under the combined auspices of the Department of Continuation Medical Education and the Center for Continuation Study, 22 short courses for practicing physicians were presented during 1962-63 and 20 during 1963-64. These attracted 1,383 and 1,254 physicians respectively. Once again the University has had an important role in providing an opportunity for physicians to refresh their basic knowledge and to learn the newest developments in a rapidly expanding field of knowledge.

Staff and Building Needs—Physical plant additions and modifications during the biennium have largely involved hospital areas. The Children's Rehabilitation Center neared completion as the biennium drew to an end. When occupied in the fall of 1964 the Center will provide 20 beds for rehabilitation work with children and 20 similar beds for adults. Definitive planning was carried out for an addition to the Variety Club Heart Hospital, and construction was started. This addition will add substantially to the diagnostic and treatment areas of that unit. The Variety Club of the Northwest has pledged \$500,000 for this addition, and the balance will come largely from federal sources. Early planning for an addition to the Masonic Memorial Hospital has been carried out. This addition will provide 40 beds as well as some laboratory facilities. The Masons of Minnesota are currently raising funds to make this possible. In addition, funds provided largely by legislative appropriation have permitted us to start remodeling Station 22 in the Hospital. When completed, this Station will include a modern, well-equipped organ-transplant unit, in which the new procedures in this exciting field will be carried out. Finally, the additional two floors being added to Diehl Hall will complete the Bio-Medical Library, making it one of the nation's finest, and will in addition provide some expansion of research space for the Department of Psychiatry and Neurology.

Serious needs for additional space remain. These include a new out-patient clinic building to replace our present, sadly outdated out-patient facilities; additional research space, especially for the clinical departments; and new quarters for the School of Nursing and the School of Public Health.

As always, the need for additional faculty positions is substantial. Neither the increase in Medical School class size that was effected in 1958-60 nor the development of the new curriculum in the School of Nursing has been fully financed, and serious needs remain in both of these areas. New programs in Genetics and Clinical Pharmacology as well as the development of a Bio-Medical Data Analysis Center should be implemented as soon as possible.

These programs will require additional faculty positions. The faculty of the Medical School has indicated its willingness to make yet another increase in the size of the Medical School class, in the public interest, but only when appropriate expansion of facilities and staff can be assured. This proposal, which would increase the entering class size to 200, a 33% increase over the present 150, has been outlined in considerable detail in an earlier communication to the President's Office, and involves substantial additions to faculty and to physical plant.

Despite the fact that the University of Minnesota has been able to improve faculty salaries considerably during the past decade, our competitive position with respect to Medical School salaries, especially in the clinical fields, has actually slipped during this time. Our top people are being offered salaries amounting to 50% to 60% more than we are able to pay. Efforts toward further salary improvement must be redoubled if we are to continue to be able to attract and hold people of quality.

—ROBERT B. HOWARD, *dean*

School of Nursing

The School of Nursing continues to plan for and effect curriculum changes designed to enable its graduates to participate responsibly in the improvement of health services to society.

Admission Requirements and Changes

Admission requirements for the practical nursing program continue the same with the effort being made to select students whose abilities are in the middle range, suggesting the probability of successful performance in and satisfaction with a terminal, vocational program of one year. In selection, ACT scores have been substituted for those on the National League for Nursing Pre-Admission and Classification Examination. Certain admission procedures and criteria for selection of students are being studied cooperatively with the Student Counseling Bureau in an effort to determine more definitive bases for selecting from a large number of applications the limited number of students who can be accommodated in each class.

Experience with two classes in the revised baccalaureate nursing program has shown that the pre-admission requirement of Natural Science 4 and 5 does not provide suitable foundations for later course work in science. A return to the prerequisite requirements in Biology and Chemistry that prevailed in the former undergraduate program would increase the total science content in the current offering by 14 credits and therefore add the equivalent of a quarter's study to the program. As an interim measure, pending further interdepartmental study of how necessary science content might be practicably provided in the future, the faculty is stipulating satisfactory completion of Chemistry 4 and 5 and Natural Science 3, or their equivalents, as requirements for admission to the program.

Work is going forward to develop evaluative measures for use in determining the advanced standing of registered nurse applicants to the baccalaureate nursing program. The present practice—of granting 45 credits in blanket fashion for studies completed in diploma nursing programs—was adopted of necessity, but is recognized as unsound.

Students entering the graduate program in psychiatric nursing meet admission requirements of the Graduate School and are held for completion of undergraduate instruction and experience in public health nursing. Although students who lack this requirement are encouraged to complete it prior to full-time study, it is possible, though difficult, to take it concurrently with graduate course requirements.

Revised graduate offerings, now being planned, will be initiated during the coming biennium and will eventuate in somewhat greater flexibility of program for students. In order to accomplish this, however, admission standards must be raised as soon as possible. There has been much "patchwork" in nursing education; applicants often lack upper division nursing courses, and in some instances have not had adequate grounding in liberal arts. For an inde-

terminate period, there will probably be need to make available for graduate students certain upper division undergraduate instruction in the nursing major. This is presently being done for selected students in the areas of psychiatric nursing and public health nursing. We are hopeful that general improvement in undergraduate programs nationally, as well as improved guidance to able students, will soon decrease the need for such supplemental instruction.

Organizational Changes

The effectiveness of some of the organizational changes that were made in the preceding biennium have not yet had a fair test, since all of the faculty positions have not been filled. The plan calls for a Director and an Assistant Director for the School; Chairmen for the three levels of programs, i.e., undergraduate, graduate, and practical nursing; and a faculty member whose principal concern is with continuing education including special offerings, extension, and summer session. Dr. Isabel Harris, having served as Chairman of Graduate Programs, was appointed Associate Professor and Assistant Director of the School in September, 1962. Coupled with these responsibilities, however, she has had to continue to carry major administrative and teaching functions in our graduate programs because of our inability to recruit suitably qualified persons into two available positions. In a person to replace Dr. Harris as program chairman, we need someone who has completed doctoral preparation, has demonstrated competence as a university faculty member, and has potential for discharging the kinds of administrative responsibilities that are necessary in effecting curriculum change. Persons in nursing education with these qualifications are not numerous, while faculty positions available to them are. The faculty has preferred to continue its search for a suitable candidate rather than to settle for less, despite the added work that devolves on some individuals as a result.

In July 1963, Helen Hansen accepted a change in her faculty responsibilities and is now serving with effectiveness in initiating, coordinating, and conducting various programs of continuing education for nurses. She chairs the Committee on Faculty Service which assesses needs and orders priorities as we plan to meet these. This committee also serves to insure that what is done in continuing education and other service activities complements the principal educational efforts of the School.

Advisory counseling for pre-nursing students in CLA is being provided by a person appointed to the staff of the Lower Division Counseling Office of that College. The School of Nursing, however, provides 60% of an instructor's salary for that person; for all practical purposes, this provision subtracts one full-time instructor from the School's faculty. Aside from this fact, though, the present arrangement is proving satisfactory. Since CLA considers it helpful that this adviser be a nurse, we were active in recruiting a replacement for Margery Duffey, who resigned in June 1964, and are assisting with the orientation of the new appointee.

It was not possible to interest a potential nurse-faculty member in the envisioned position of Instructor and Administrative Assistant for Student Personnel Services. The position is therefore being used solely for teaching, and various members of the faculty are carrying the work entailed in recruitment, career guidance of students, placement of graduates, awarding scholarships, and maintaining liaison on matters of student health or employment. While the functions are largely being carried out, coordination of them is not always of the best because of the necessary dispersion of effort.

General Curriculum Review

I. Post-baccalaureate program

A curriculum for the Master of Science (Psychiatric Nursing), 5 quarters in length under Plan B of the Graduate School, was initiated in the fall of 1963. Six students have been enrolled in the program and the potential for increased enrollments seems good. The clinical facilities chosen for student learning experiences have met faculty expectations,

and will continue to be used next year. The major sequence in psychiatric nursing provides a progression of nursing care for the individual patient, work with groups of patients, and participation in community mental health activities.

Current legislation regarding community psychiatry reflects changing concepts regarding the prevention of mental illness, maintenance of health, and new approaches to treatment. The psychiatric nursing program takes cognizance of these changes and aims to prepare for a kind and level of nursing practice that differs from that of an earlier era when long periods of institutional care were commonplace in the management of the mentally ill.

II. Pre-baccalaureate program

A. Plan A (16-quarter program)

The last class to be admitted to this program entered in the fall of 1962 and will complete requirements for the degree, Bachelor of Science in Nursing, at the close of winter quarter 1965.

B. Plan B (13-quarter program)

In the 10-quarter major which was begun in the fall of 1962, the faculty has aimed to design a program that will (1) lead to a baccalaureate degree in nursing within a span of four years; (2) provide a 50-50 balance between liberal arts courses on the one hand, and professional and profession-related courses on the other; (3) permit, in the pursuit of general education, some individualization according to students' interests through provision of electives; (4) insure some upper division study in general education; (5) permit pursuit of a minor in a general education subject area; (6) provide equal credit allocations to required courses in the behavioral and the natural and biological sciences; (7) develop the major in nursing largely on the upper division level; (8) in developing and presenting nursing content, aimed to differentiate nursing, *per se*, from the principles to be applied in its practice which derive from other subject-matter fields such as psychology, physiology, pharmacology, or nutrition; (9) assist students to differentiate between those nursing functions that are legally defined as being independent of medical direction and those that comprise delegated medical tasks, and to perform functions of both types knowledgeably and responsibly; (10) further students' abilities to think critically and to identify and solve problems, especially as related to responsibilities for nursing care and the providing of nursing services; (11) prepare students to practice professional nursing with a degree of competence appropriate to beginning positions in the occupation; and (12) provide suitable foundations for graduate education in nursing.

As the first class of students moves into the senior year of this program, substantial progress has been made in implementing the design outlined above. The most difficult and time-consuming task for faculty has been the identification of nursing content as distinguishable from content supportive to its practice from other disciplines and the development of approaches in teaching which assist the students to focus on patients as the central object of the direct service they are learning to render. In this effort, the student is seen throughout as a learner, and the clinical nursing experiences that are included are those necessary to learning. Criteria are established for the selection of successive learning experiences in the nursing care of patients, and students are carefully guided by faculty during each of these. This orientation to learning nursing makes possible its accomplishment with less practice time than was once the case. It also contrasts sharply with prevailing stereotypes about "nurses' training," and so leads to anxiety about outcomes in the clinical setting on the part of many individuals—*anxiety* which is felt, in turn, by students and faculty alike. This is an understandable accompaniment of a change which places on the faculty a special responsi-

bility to plan for and conduct a comprehensive and continuing evaluation of the program and its effectiveness.

One such evaluative effort which is in progress concerns the required science content of the program. Earlier mention is made of this requirement under the section on admission requirements and changes. The question of providing appropriate science content in the program can be seen to relate especially to items (1), (2), (6), (8), and (9) above. Presently available foundational courses in biology and chemistry at the University are either seen as integral to the major sequences in these fields and accordingly carry substantial credit, or they are designed to be terminal and are not acceptable prerequisites for later upper division science courses offered to students in nursing by departments of the Medical School. Faculty of the School will continue efforts to obtain appropriate interdepartmental review of this problem so that what is ultimately made available is both sound and practicable in view of the purposes of the baccalaureate program in nursing.

C. Plan C (10-quarter program for registered-nurse students)

The purpose and general plan of this offering are the same as Plan B. The modifications within it are

1. Those necessitated by the fact that it serves students who have previously completed preparatory programs in nursing leading to either a diploma or an associate degree. Provision of nursing content is difficult since for most students rather major changes in concepts must be effected. The aforementioned programs tend to be technical in nature; a professional outcome is desired.
2. Those resulting from the practice of granting in blanket fashion 45 credits of advanced standing for this earlier nursing preparation. This latter practice is not viewed as desirable by faculty, and as more rational determinations can be made, the Plan C program will vary from that of Plan B even less than it does now.

III. Practical nursing program

Since 1960-61 when the last major curriculum changes were implemented in this one-year program, a follow-up study of graduates in the classes of 1962 and 1963 has been in progress as one means of evaluating them. All results of this study are not yet available. Paired replies from employers and graduates occasion concern about the wide variation in the range of responsibilities and functions assigned to practical nurses, and the seeming discrepancies that appear to exist between job descriptions and actual practice.

Continuing Education

The following short-term courses on Supervision of Patient Care in Nursing Homes have been offered to nurse supervisory personnel in such homes or in geriatric facilities throughout Minnesota and in other states. These have been made available by School faculty through the Center for Continuation Study. Tuition, fees, and stipends have been provided for students by U.S. Public Health Service Division of Nursing Professional Nurse Short-Term Traineeship Grants. The total amount for the first two series was \$6704. Figures are not yet known for the third series, but \$3969 was the estimate of cost requested and funded.

Series 1. January 21-23 and March 13-15, 1963. Twenty-eight persons attended the first session (12 from the Twin Cities, 16 from elsewhere in Minnesota); 27 completed the course.

Series 2. October 7-9 and December 2-4, 1963. Twenty-five individuals attended the first session (8 from the Twin Cities, 16 from elsewhere in Minnesota, and 1 from Wisconsin); 22 completed the course. Course content was identical to that of Series 1.

Series 3. Available only to those who had completed Series 1. March 11-13 and May 4-6, 1964. Nineteen (of potential 27) attended the first session; 18 completed the course.

A five-day workshop, "The Supervisor—Her Role in Psychiatric Patient Care," was conducted for nurse supervisors May 6-10, 1963. Invitations to attend were extended to all state and voluntary psychiatric nursing facilities in Minnesota known to us. Tuition and stipends in the amount of \$2820 were also provided for 28 students by a Professional Nurse Short-Term Traineeship Grant. Ten of those in attendance were from the Twin Cities, and 18 were from elsewhere in Minnesota. Three represented Veterans Administration Hospitals, 13 were employed in state psychiatric hospitals, and 12 were working in psychiatric units within general hospitals.

Augmentation of Support from Non-University Resources

Federal legislation enacted in 1956 and 1958 established the Professional Nurse Traineeship Program for a seven-year period terminating in June 1964. The purpose of this program, in which the University of Minnesota has participated, is to expedite the preparation of nurses prepared to relieve the critical shortage of teachers, administrators, and supervisors in the nursing field. During the current biennium, 82 students have received awards for an aggregate of 790 months of study. Of the 82 students, 19 were engaged in pre-baccalaureate study, and 53 were enrolled in masters programs in administration or education. Grants to the University of Minnesota to provide these stipends totaled approximately \$300,000. These funds may be used only for student stipends, tuition, and fees; no support is provided for instruction or other costs incident to the increased enrollment. Legislation for extension of this program has been introduced, and since need continues unabated, it seems probable that the program will be extended.

Grants from the National Institute of Mental Health totaled approximately \$103,000 for the biennium, and provided support for instruction in psychiatric nursing and trainee-stipends for students. Two faculty members assume responsibility for graduate advisement and instruction; one instructor participates in instruction in Plan C of the baccalaureate program. In the second year of the biennium, one undergraduate award was available to a student in either her junior or senior year of study. Tuition, fees, and stipend were awarded to a senior, who qualified because she planned graduate study and a career in mental health nursing. Six graduate students are receiving support for the 15-month period during which they are engaged in full-time study.

Recognition by nursing faculty of the need to develop on-going research activities led to the submission of an application to the Division of Nursing, U. S. Public Health Service, for financial support of a five-year project. The purpose of this project is to strengthen faculty competence in research on the assumption that this will eventuate in an active research program basic to the improvement of nursing instruction at all levels. The initial grant, awarded in the fall of 1963, totaled \$27,000. Reapplication yearly is planned for increasing amounts that will provide for expansion of activities designed to accomplish the purpose of the project.

The National Fund for Graduate Nursing Education was established in 1960 as a non-profit, single, national organization for soliciting general financial support for *graduate* nursing education and for channeling this support to accredited graduate nursing schools in the United States. During this biennium, the University of Minnesota School of Nursing has received a total of \$7010.73. To date, the funds have been used sparingly to provide consultative assistance in curriculum development, and developmental opportunities for faculty. Some accrual of these monies, it is hoped, will assist in a more major contribution to graduate nursing programs as the revised curriculum is initiated.

The School of Nursing Foundation continues to serve the faculty and students in many ways, not the least of which is a broader interpretation of accomplishments and continuing needs than would be possible without it.

Resources for scholarships have shown a steady increase, and, from these, awards totaling \$8405 were made to baccalaureate students. Funds have also been available to provide partial support for a faculty member to avail herself of an educational opportunity elsewhere.

Needs of the School of Nursing

Our needs continue to be many and varied in nature. The work involved in major curriculum revisions occurs at a time when there is well-documented need for both experimentation with and expansion of nursing programs. We have responded to various expressions of this need by program modifications and by increasing the number of admissions to undergraduate programs while trying not to jeopardize the welfare of patients or sacrifice the quality of instruction for students. Nursing laboratory involves experiences with patients; to ensure patient welfare, adequate faculty supervision of the experience is imperative. Three faculty members provide instruction for 47 practical nursing students. The need to ensure safety of patients requires that during clinical learning experiences an instructor be available to students; learning experiences for fifteen or more students cannot be provided in one area of the hospital. It is apparent, then, that this ratio does not suffice. The need to devote many hours to supervision absorbs time which could be devoted to experimentation with ways in which the same learning outcomes might be achieved more efficiently. The present faculty-student ratio recommended for the School of Nursing and similar educational units is 1:12.7; the 1:15 ratio, particularly in a period of transition, permits only a holding action of questionable safety. Were it not for the commitment of present faculty members and their contributions of time and energy far beyond the usual hours of University operation, even this ratio would not be possible. Further, there seems to be some evidence that these conditions have adverse effects on recruitment of faculty personnel and on efforts to enlist the interest of undergraduate students in preparing for a teaching career.

For the coming biennium, the five faculty positions predicted as necessary in the 1960 prospectus of the School would assist in meeting minimal requirements for instruction. Critical shortages of qualified faculty personnel further compound our needs since recruitment, selection, orientation, and guidance of new faculty who, in many instances have had no previous faculty experience in institutions of higher education, are time-consuming but vital activities if quality instruction is to be maintained.

Increased space in close proximity to University Hospitals is a continuing unmet need. Improvements have been effected in the School's furnishing, equipment, and space utilization, but space needs are outpacing remodeling potential or feasibility. Aside from the problems of ventilation in multiple office accommodations, such facilities do not promote a desirable atmosphere for conference or encourage faculty research or writing efforts. When facilities other than the University Hospitals are used for clinical laboratory experience, parking constitutes an almost insurmountable problem for faculty. This need to come to and leave the main campus several times in the course of a day is often the responsibility of relatively new faculty members who have not yet qualified for contract parking space. Time is consumed in seeking parking space, and it is costly to enter lots several times in a day.

There is general recognition by the faculty of the need to develop ongoing research as a means of adding to the emerging body of knowledge in nursing, enriching the content of the curriculum at all levels, and providing opportunity for student participation. Personnel and space needs described earlier are major deterrents to most efficient use of our grant monies. However, an even greater need exists for a project director qualified to assume responsibility for forwarding the endeavor. Positions for persons thus qualified are increasing far more rapidly than individuals can gain the requisite preparation.

The press of ongoing curricular activities for full-time students is so time-consuming that despite identification of many extra-college and extra-campus service opportunities, faculty have needed to exert great selectivity

in participation. This, in turn, affects not only the recruitment values of such efforts, but, perhaps more important, it destroys numerous opportunities to interpret nursing, the changing values of the profession, and the ways in which these are reflected in the curriculums of the School.

Regional planning for nursing education in the Midwest might promote greater effectiveness in the utilization of qualified faculty and available resources as it has in the South and West. However, implementation of such planning for nursing in the absence of broad plans for the expansion and improvement of higher education throughout the region seems an unrealistic expectation. During the biennium, there have been two meetings of deans and directors of nursing programs in universities, comprising the CIC, and on several other occasions individuals or groups have initiated exploratory efforts to determine the advisability of regional planning. Various suggested organizational criteria, as by geographic divisions within the Midwest or by institutional control, seem either to exclude certain influential nursing schools, or to include so many institutions that coordination would not be easily accomplished. Further, when educational planning within many mid-western states seems difficult to accomplish, efforts for such planning among the several states in the region may well seem more time-consuming than is merited by likely outcomes. However, if such planning is undertaken for nursing education under any responsible aegis, it is unlikely that this School can do other than participate despite the faculty time that such participation will entail.

—EDNA L. FRITZ, *director*

School of Public Health

The biennium 1962-64 in the School of Public Health has been marked by significant increases in all areas of activities, notably teaching, research, and public service. As the School is one of only twelve accredited schools of public health in the United States, it logically serves more of a national and international role than do most other parts of the University, enrolling during the biennium students from 44 states and 46 foreign countries. As a consequence of this, the School derives a large and increasing fraction of its support from federal funds, a fraction which has been materially increased during the past biennium. It is this federal support that justifies the high proportion of students from foreign countries and other states, a proportion grossly out of line with general University enrollments. The extent of this outside support is shown by the fact that during the past biennium the School reached the point at which barely 10% of its expenditures were from University support funds. This has meant, however, that a great deal of the time of the administrative staff of the School must be spent in obtaining and maintaining a steady flow of outside funds.

Within the area of teaching, the biennium has been marked by significant increases in all programs. The enrollment in the non-professional undergraduate courses offered for other parts of the University continued at a record high level and will undoubtedly increase rapidly in the coming biennium unless the College of Liberal Arts goes through with the highly ill-advised but nonetheless strongly supported proposal of its curriculum committee that the requirement in Personal Health be discontinued. Within the area of professional courses, the biennium has been marked by establishment of programs in hospital engineering, accident prevention, radiological health and training for teaching of public health nursing, all of which programs are being supported by specific federal grants. The program in hospital engineering is notable as the first of its kind in this country.

Of particular significance is the establishment of an arrangement with the Agency for International Development of the Department of State for the conduct of Ground Water Training Programs outside of the United States. During the past five years the School, in response to requests from the Department of State and the World Health Organization, has conducted on the University campus ten-week summer courses on ground water development. To these courses have come some 200 students from over 50 nations sent by either WHO, the Department of State, or their respective national govern-

ments, for training in the development of suitable public water supplies in some of the less developed countries. Under a contract with the Agency for International Development, the School has, during the past year, conducted two such courses at the National University of Colombia in Bogota. In the second of these, there has been active participation of Colombian staff, with the thought that the National University, following the pattern demonstrated to its personnel, will be able to conduct courses of its own for public health personnel not only from Colombia, but also from other countries in Latin America. The contract calls for similar courses to be conducted in the winter of 1964-65 in Beirut, Lebanon (though this may well be changed to New Delhi, India) and for 1966-67 to some other location in either Africa or Asia. The basic thought in these overseas courses is that the local universities will ultimately be able to continue such instruction to national personnel. Thus, the pattern of instruction in ground water development, initiated in the School of Public Health some five years ago, will become a model to be copied in other countries, constituting a highly significant contribution to world health, one of the major problems of which is that of water-borne disease that is preventable by proper public or semi-public supplies. In the conduct of the ground water course both on the campus and overseas, the School has had the invaluable assistance of the Edward E. Johnson Company of St. Paul, which has loaned the services of staff with extensive international experience.

The biennium has likewise been marked by significant development of special short institutes. Notable among these was one in Hospital Administration made possible by a grant from the Aloe Foundation, a grant which will provide for an annual institute of this character for a five year period, with the possibility of a later renewal. The institute of the past biennium brought to the University the Directors-General of Health of Norway, Chile, and Scotland as participants in the program. Another institute which had both nationwide and international attendance was the Institute on Institutionally Acquired Infections, supported by a grant from the Public Health Service. In the summer of 1962 Professors Hamilton, Lentz, and Bieter conducted a seminar of several-weeks duration on Hospital Administration in Manila under the joint auspices of the World Health Organization and the Department of Health of the Republic of the Philippines. Other institutes under special federal grants have dealt with rehabilitation nursing, accident prevention, maternal and child health, this latter conducted in collaboration with the University of Michigan School of Public Health.

The research program of the School was notably expanded thanks in part to specific project grants and in part to the availability of General Research Support funds from the National Institutes of Health. These latter are of particular significance in that they enable the School to make the decision as to use of such funds for either the general support of facilities for research and research training or for specific projects. Notable within the area of research has been the participation of the Laboratory of Physiological Hygiene in the nationwide diet studies carried on in collaboration with several Universities. The Division of Epidemiology has continued its studies of silo gas poisoning and the epidemiology of congenital malformations (likewise a collaborative study with other Universities), while the Division of Environmental Health has expanded its limnological research in Lake Superior, and its studies of grain dust air pollution. Special note should be made of a research project initiated during the biennium with the National Space Administration, dealing with certain aspects of sterilization of interplanetary missiles. The research program in Environmental Health was notably strengthened by the opening of new laboratories within part of the previously unfinished basement of the Health Service, with construction made possible by a Federal Research Facilities grant.

The staff continues to be in heavy demand for public service. Notable during the past biennium have been the services of Dr. Leonard Schuman on the Surgeon General's panel on the relationship between cigarette smoking and illness; Professor Bearman in Biostatistics for a two months' assignment at the University of Ibadan, Nigeria; Dr. Marion Murphy, Professor Richard Bond, and the Director, on Task Forces of the National Commission on Community Health Services, as well as the appointments of other staff members to various community health committees. Recognition of the standing of the

School in the field of Public Health came in the form of the award of the Sedgwick Memorial Medal, the top honor of the American Public Health Association, to the Director of the School in 1963.

No report of the biennium would be complete without mention of the severe loss due to the death of Professor Herbert Bosch, director of the Division of Environmental Health, in September 1962, while on a cultural exchange visit in the Soviet Union. One of the world's outstanding leaders in public health engineering, Professor Bosch had developed a teaching program of international repute.

The principal problem currently besetting the School is one of space. The offices and laboratories of the School are currently so crowded that there cannot be full utilization of the available training and research funds. Already the School has had to expand outside of its facilities in the Mayo Memorial Building and under the stadium (Laboratory of Physiological Hygiene) into space in Ford Hall (for some of the Biostatistical work), the Health Service (for expanded Environmental Health research laboratories), and rented off-campus space for research projects in Hospital Administration and Physiological Hygiene. Though the School of Public Health at Minnesota is, in terms of students, the largest of any in the United States, it is operating within the smallest physical quarters of all of the School, a handicap that not only reduces the efficiency of the School but serves as a severe deterrent to recruiting of staff. Additional space is urgently needed if the School is to continue to play the role for which it was designed and for which it is receiving such generous outside support.

—GAYLORD W. ANDERSON, *director*

University Hospitals

The University of Minnesota Hospitals was established in 1909 by the Minnesota State Legislature to furnish a means for the University of Minnesota to train students in the multiple fields of medical care. Teaching is provided in the Hospitals by a competent staff composed of 648 full-time and 1,356 part-time faculty members. These staff members are responsible to the State through the University for both teaching of students and care of patients. This arrangement has proved adequate, not only for the education of students, but also as an economical means for the State to care for many of its indigent sick. Many staff doctors are also engaged in research, a most important function of a university medical faculty.

There are now 13 units of University Hospitals with a combined capacity of 755 beds.

The Minnesota General Hospital, also known as the "Main" Hospital, is the central core of the University Medical Center. This area, of which the Mayo Memorial Hospital is a part, contains most of the diagnostic and therapeutic facilities, as well as most of the beds for the care of patients with acute illnesses. The Outpatient Department, within this same area, recorded 131,107 patient visits to its 55 specialty and subspecialty clinics during the past year. The University Health Service, adjacently located, with its own director, staff and budget, uses one nursing station of University Hospitals for the hospitalization of University students.

The Masonic Memorial Hospital is a para-hospital, primarily for cancer patients. Patients in chronic phases of long-term illnesses are admitted or transferred to the Masonic Hospital from the Main Hospital. Its charges are about one-third less than those in other sections of University Hospitals. A total of 1,022 patients received 21,675 days of care at the Masonic Memorial Hospital in 1963-64.

The Variety Club Heart Hospital provides care for cardiac patients, both adults and children. The same patient classifications and referral procedures are used as for the Main Hospital. This facility provided 23,148 days of care to 1,836 patients last year.

The Children's Rehabilitation Center is a recently constructed unit which is scheduled for full operation on October 1, 1964. This center will house the Pediatric In-Patient and Out-Patient services for the Department of Physical

Medicine and Rehabilitation, and has three schoolrooms to provide continuing elementary and secondary education of hospitalized children.

Admissions Policy and Procedure—All patients, except emergency and obstetrical patients, are admitted to University Hospitals only by referral of their private physicians. Adherence to this policy enables the staff to coordinate the care of patients with that provided by their doctors in their home communities. It tends to insure availability of care for patients who will benefit most from specialized services, provides the Hospital and its Out-patient Department with patients necessary for teaching, and avoids criticism that the staff of the University Hospitals is in competition with the private physicians of the State. This system continues to be a satisfactory one and provides the Hospitals with an average of 620 inpatients and 520 outpatients per day.

Approximately 30% of our patients are not able to pay for their medical care. The expenses of their hospitalization are shared equally by the State and the County authorizing their care. No charge is made for professional medical services furnished to them. These patients must have, in addition to the medical referral from their doctor, an approval from the Welfare Department of their home county to obtain either outpatient or inpatient care.

"Pay patients"—also referred to as "per diem patients"—are those not able to afford the services of both a private doctor and a private hospital. They are not charged any professional fees for the services of the medical faculty but are expected to pay for their hospital care at the same rates charged State-County patients. During the past year about 30% of our patients were "pay patients."

"Private patients" now comprise about 35% of the patient census at University Hospitals. These patients pay both hospital charges and physicians' fees. The hospital rates for private patients are approximately 10% more than for "State-County patients," and are comparable to charges in other Twin Cities hospitals. University Hospitals determines the final classification when it admits these patients.

The State of Minnesota, through direct appropriations, partially subsidizes the care of patients with multiple sclerosis and psychiatric illnesses, and of those needing extensive physical rehabilitation. The Eustis Fund provides financial assistance for care of some children. An annual gift from the Variety Club of the Northwest helps provide for care of children and adults in the Variety Club Heart Hospital.

Patients are not segregated according to their ability to pay. All are accommodated in single, double, three- or four-bed rooms.

It is a policy of the hospital that all patients be teaching patients. This policy is one which seems to be understood and accepted very well by most of them.

Statistics and Outlook—The year 1963-64 was a good one for the University Hospitals. The number of outpatient visits increased from 128,585 in 1962-63 to 131,107. During the last 15 years the outpatient visits have shown a steady upward trend from the 95,786 visits recorded in 1949.

Inpatient admissions and patient days decreased slightly last year. The average length of stay increased from 13.5 to 13.6 days per patient. It is interesting to note that the average length of stay has remained almost constant during the past decade. The shorter length of stay in obstetrics, surgery, orthopedics, and other services has been countered by the use of the new Masonic Memorial Hospital and additional psychiatric beds where the length of stay is longer.

There were 756 deaths in the University Hospitals during the last year, 4.5 deaths for every 100 patients admitted. Of these, 117 deaths occurred within 48 hours after admission. There were 628 post mortem examinations performed, resulting in an autopsy rate of 84.5%.

Since a significant number of patients come from Hennepin County, a matter of concern is the effect of the conversion of the Minneapolis General Hospital to county hospital status. During the first six months of its operation as Hennepin County General Hospital, there has been no noticeable effect on the University of Minnesota Hospitals' census. Also of concern is Minne-

sota's new Medical Assistance for the Aged program, which could decrease the number of medically indigent patients who are referred to this Hospital. A matter of national concern for all teaching hospitals, shared by this Hospital's administration, is the impact of any new federal health care legislation.

Now under construction is an addition to the Variety Club Heart Hospital which will house needed additional diagnostic and therapeutic facilities for cardiac patients. It will also increase the amount of laboratory space which will be used for heart disease research. A gift of \$500,000, representing a substantial portion of the funds needed, has been contributed by the Variety Club of the Northwest.

Construction of an addition to the Masonic Memorial Hospital will be started next spring, increasing its capacity from 80 to 120 patients. One of the two new floors will be devoted to cancer research laboratories. The entire \$1,100,000 needed for this construction has been pledged by the Masons of Minnesota.

Remodeling of the older sections of University Hospitals continues under an overall plan which was developed when the Mayo Memorial building was built in 1954. Legislative funds are providing for the remodeling of Station 22, a part of the Elliot Memorial which was built in 1910, and for four nursing stations in the Todd and Christian wings. Remodeling is also planned for the pediatric, obstetrics, and nursery stations, and the hospitals laboratories.

A chronic problem for hospitals, including the University Hospitals, has been the shortage of professional nursing personnel. As indicated in the following excerpt from the Nursing Services Annual Report, the outlook for future staffing at this Hospital appears encouraging:

"Over the past ten years, we have continued to have the problem of shortage of professional nurses, especially during the summer months. For several years it was necessary to close beds and operating rooms because of the extreme shortage. For the past two years, however, we have been able to operate at full capacity except for the closing of three beds in the Intensive Care Unit during the spring and summer months. In fact, we have had more qualified applicants than vacancies in the fall of the year. Several factors are probably related to this change. Substantial salary increases for staff nurses and change in graduation dates of some Schools of Nursing from fall to June no doubt have played a part. Probably more significant, however, is the time and effort expended in recruiting, counseling and assigning staff as well as the improved orientation program."

UNIVERSITY HOSPITALS STATISTICAL SUMMARY

	1962-63	1963-64
Admissions		
Inpatients	16,929	16,685
Outpatients	24,928	26,050
Average Daily Census	627	620
Average Length of Stay	13.5	13.6
Total Patient Days of Hospital Care	228,890	227,155
Patient Visits to Outpatient Department	128,585	131,107
Patient Treatments in Rehabilitation Department	57,915	59,537
Patients assisted by the Social Service Department	14,360	15,099
Hours given by volunteers	21,651	21,659
Surgical Operations	10,955	10,855
Prescriptions filled by Pharmacy	315,296	332,506
Hospital Laboratories Examinations and Procedures	714,321	758,389
X-ray Examinations and Procedures	77,557	80,508
X-ray and Cobalt Therapy Treatments	20,351	15,565
Medical Records used for all purposes	220,648	228,163
Medical Records used for research	22,516	49,160
Meals Served	953,645	921,063
Number of Employees	1,761	1,776
Cost of Operation		
Outpatient	\$ 1,240,076.75	\$ 1,387,658.29
Inpatient	\$10,232,355.35	\$11,642,535.10

BIENNIAL REPORT

 UNIVERSITY HOSPITALS
 COMPARATIVE TWELVE-MONTHS REPORT
 IN-PATIENT DEPARTMENT

	1962-63	1963-64
Total Patients Admitted		
County	3,895	3,927
Pay and Per Diem	10,069	9,751
Student Health Service	1,433	1,446
Psychiatry	157	196
Psychiatry (Pay, Per Diem)	251	290
Child Psychiatry	50	45
Child Psychiatry (Pay, Per Diem)	63	72
Free	286	240
Eustis	232	188
Variety Club Fund	46	47
Rehabilitation	1	0
Masonic Hospital		
County	168	191
Pay, Per Diem	278	292
Free	0	0
Totals	16,929	16,685
Total Days Hospital Care		
County	66,458	68,327
Pay and Per Diem	96,747	99,165
Student Health Service	5,935	5,796
Psychiatry	14,910	14,255
Psychiatry (Pay, Per Diem)	7,830	8,497
Child Psychiatry	3,816	3,176
Child Psychiatry (Pay, Per Diem)	1,706	2,488
Free	1,551	1,307
Eustis	2,615	1,873
Variety Club Fund	668	320
Rehabilitation	168	276
Masonic Hospital		
County	15,246	12,507
Pay, Per Diem	9,220	8,988
Free	20	180
Totals	228,890	227,155
Avg. Days per Patient		
County	15.4	16.2
Pay and Per Diem	11.0	11.1
Student Health Service	4.0	4.1
Psychiatry	56.3	47.8
Psychiatry (Pay, Per Diem)	44.5	40.7
Child Psychiatry	55.3	56.7
Child Psychiatry (Pay, Per Diem)	38.8	36.1
Free	5.3	5.3
Eustis	10.3	9.3
Variety Club Fund	14.5	15.6
Rehabilitation	84.0	0
Masonic Hospital		
County	35.4	28.4
Pay, Per Diem	20.6	23.0
Free	20.0	45.0
Avg. Length of Stay per Patient	13.5	13.6
Daily Avg. No. Patients		
County	182.0	187.2
Pay and Per Diem	270.5	271.7
Student Health Service	16.2	15.9
Psychiatry	40.8	39.1
Psychiatry (Pay, Per Diem)	21.4	23.3
Child Psychiatry	10.4	8.7
Child Psychiatry (Pay, Per Diem)	4.7	6.8
Free	4.2	3.6
Eustis	7.2	5.1
Variety Club Fund	1.9	.9
Rehabilitation	.4	.8
Masonic Hospital		
County	41.9	34.3
Pay, Per Diem	25.2	24.6
Free	.1	.5
Daily Average Census for Hospital	627.09	620.6

UNIVERSITY HOSPITALS
COMPARATIVE TWELVE-MONTHS REPORT
OUT-PATIENT DEPARTMENT

Service	New Patients		Revisits		Totals	
	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64
Medicine						
General	2,639	2,797	6,259	5,152	8,898	7,949
Allergy	31	38	1,077	1,235	1,108	1,273
Arthritis	33	44	1,038	865	1,071	909
Cardiac (Adult)	122	124	1,921	1,871	2,043	1,995
Chest	22	26	276	294	298	320
Chemotherapy	32	20	746	552	778	572
Diabetic	36	24	942	1,007	978	1,031
Gastro-intestinal	15	14	245	237	260	251
Hematology	16	26	579	612	595	638
Metabolism	25	29	482	427	507	456
Peripheral Vascular		21		34		55
Dermatology and Syphilology	918	890	2,774	2,837	3,692	3,727
Neurology						
General	371	358	835	868	1,206	1,226
Cerebral Vascular	14	23	230	302	244	325
Convulsive Disorder	18	14	776	745	794	759
Multiple Sclerosis	9	7	361	337	370	344
Muscle Disease	5	2	62	56	67	58
Psychiatry	402	462	6,372	7,494	6,774	7,956
Day Care		20		451		471
Surgery						
General	372	382	1,628	1,472	2,000	1,854
Culdoscopy	29	58	7	1	36	59
Plastic	59	69	282	223	341	292
Proctology	625	726	646	565	1,271	1,291
Orthopedic	470	442	2,236	2,436	2,706	2,878
Amputation	11	0	34	36	45	36
Urology	245	222	1,269	901	1,514	1,123
Urology-Tumor	1	28	20	185	21	213
Neurosurgery	187	125	694	747	881	872
Eye						
General	1,572	1,489	6,619	7,191	8,191	8,680
Orthoptic	188	187	392	410	580	597
Squint	3	4	271	349	274	353
Ear, Nose and Throat	1,071	1,085	2,347	3,081	3,418	4,166
Audiology	833	1,149	907	759	1,740	1,908
Gynecology						
General	365	373	1,106	1,074	1,471	1,447
Gynecology Tumor	95	114	1,703	1,743	1,798	1,857
Obstetrics	529	506	3,525	3,652	4,054	4,158
Pediatrics						
General	1,138	1,150	3,335	3,134	4,473	4,284
Allergy	339	9	407	245	407	254
Cardiac		409	1,745	1,462	2,084	1,871
Convulsive Seizure		3	640	218	640	221
Endocrine		5	449	504	449	509
Fibrocystic	10	13	270	442	280	455
Hematology		3	1,006	1,146	1,006	1,149
Muscle Disease		1	11	10	11	11
Neurology		36	634	1,155	634	1,191
Renal	28	30	472	672	500	702
Rheumatic	39	33	492	751	531	784
Child Development Study	10	0	1,521	1,756	1,531	1,756
Well Baby	1	0	286	544	287	544
Child Psychiatry	639	430	1,144	1,399	1,783	1,829
Tumor	160	103	1,517	1,430	1,677	1,533
Emergency	3,595	4,104	16,665	16,560	20,260	20,664
Nutrition	1,832	1,695	3,029	2,859	4,861	4,554
Dental	900	1,156	1,029	715	1,929	1,871
North	3,224	3,092	16,586	16,369	19,810	19,461
Physical Medicine and Rehabilitation	1,650	1,880	3,758	3,485	5,408	5,365
Totals	24,928	26,050	103,657	105,057	128,585	131,107

The Hospitals' staff continues to make efforts to improve the care of the patients. It enjoys the opportunity to assist in the education of all medical students and students in paramedical fields and to share in the exciting developments of medical research.

—GERTRUDE M. GILMAN, *director*

DEPARTMENT OF MILITARY SCIENCE

The Army ROTC continued its traditional mission of providing students with an opportunity to earn a commission in the United States Army Reserve through an integrated program of military instruction at the college level.

The Military Science curriculum remained substantially the same since the modified program was authorized during the preceding biennium, with but one exception—the U.S. in World Affairs Course was replaced by "World Affairs in Anthropological Perspective." The course is designed to give senior cadets a better understanding of the culture—family, religion, marriage, and superstitions—they may encounter when sent abroad on military assignments. The course is conducted by an instructor furnished by the Department of Anthropology, with the assistance of foreign graduate students attending the University.

ROTC strength at the end of each school year was as follows:

End of School Year	Basic Course		Advanced Course		Total
	1st Year	2nd Year	3rd Year	4th Year	
1962-63	74	62	48	52	236
1963-64	90	42	38	51	221

The enrollment trend continues in a steady decline that began with the school year 1959-60. In an effort to stop this trend, additional class periods were offered in the Fall of 1962, with the hope that they would reduce class scheduling conflicts. Plans were also made to offer Army ROTC classes for AF&HE freshmen on the St. Paul Campus. These classes were later cancelled due to insufficient enrollment.

A total of 88 students were commissioned during the biennium, compared with 112 during the previous period.

Reserve Officer Commissions 1962-63: 37

Reserve Officer Commissions 1963-64: 42

Regular Army Commissions 1962-63: 4

Regular Army Commissions 1963-64: 5

The Army Flight Training Program was conducted during the 1963-64 school year. Five students completed the program.

The Pershing Rifles, Scabbard and Blade Society, Army ROTC Rifle Team and the Brigade Band continued to be active during the biennium.

The "Kadettes," an all student women's organization, was established during the school year 1963-64. Purpose of the organization is to assist the Army ROTC cadets; i.e., Scabbard and Blade, Pershing Rifles, and the Army Brigade Staff, in the accomplishment of assigned projects and programs.

The ratings for annual general inspections were again "satisfactory," the highest rating, with comments as to the excellent quality of the program.

—ROBERT J. ELLIOTT, *Lt. Colonel, Artillery*

UNIVERSITY OF MINNESOTA, MORRIS

The 1962-64 biennium has been a period of continued vitality and realization for the Morris campus of the University, climaxed by the graduation of the first class of sixty senior students in June, 1964. This college has now become a complete four-year liberal-arts institution, offering to the state the same high quality of education, research, and culture as does the total University of which it is an integral part.

Curriculum—During the 1962-64 biennium the third stage of curriculum development occurred in a reassessment of the total curriculum as it was formulated in the first two years of this college's existence. Drawing upon the opinion, judgment, and wisdom of the individual faculty members and many of their Minneapolis campus counterparts who were extensively used as consultants, the curriculum committee accomplished this task of a close examination of the fully developed four year liberal arts curriculum. Two

principles guided this reassessment of the total offerings of the University of Minnesota, Morris: first, to provide a sound undergraduate liberal education for the student, and second, to make the program conform to the highest standards of excellence that the University of Minnesota maintains as a whole.

The University of Minnesota, Morris, has two academic programs—a four year liberal arts curriculum and preprofessional training in twenty different professional areas. The curriculum now allows thirteen different majors and nineteen different minors in the liberal arts, as well as a teacher education program leading to certification on the secondary school level. The curriculum which has emerged is similar to that of the University's College of Liberal Arts and a number of Minnesota's private liberal arts colleges; and its lower division offerings still have many similarities with the offerings found in a number of the state's junior colleges.

Despite these general similarities, the existing program on the Morris campus has been tailored to fit specific needs of this college. Procedures for the exemption from fundamental courses in mathematics, English, and foreign languages are in operation, whereby the advanced student in these areas may proceed more rapidly. Of a more general nature and in the interest of a more liberal education, the required minor area of concentration of course work in a specific area has been substituted with the opportunity to take 30 upper division credits outside the student's major to fulfill requirements for graduation.

Of special significance is the decision to proceed with an elementary education offering during the 1962-63 academic year. This newest area of development in the curriculum leads the student to certification by the State Board of Education and to the Bachelor of Arts degree, for the program requires the same lower-division general-education requirements as other majors on the campus and therefore merits the liberal arts degree.

In January 1964 the Visitation Committee for Accreditation from the State Department of Education visited the campus and gave accreditation to the secondary teacher education program. A visitation in the winter quarter of 1965 will complete the elementary education accreditation procedure. A complete analysis of the college had been compiled and was presented to the group as part of their survey and study of the campus.

Finally, a special program is being offered to elementary school teachers with two year certification who wish to complete work for a Bachelor of Science degree in elementary education. Approximately 60 students are enrolled in the program. The program is temporary in nature and will be phased out when it is feasible for the people for whom it is being presented.

Students—The growth of the campus at Morris is perhaps best indicated in the rapid and satisfying increase in student enrollment each year. In the 1962-63 academic year 522 students attended the University of Minnesota, Morris. By 1963-64 the number had risen to 690. The University of Minnesota, Morris, can in no way be described as a local or community college; it is rather a regional college with a relatively small proportion of its students coming from the immediate commuting radius. Sixty-nine per cent of the student body now reside on campus or in rented housing in the community, and only thirty-one per cent commute. This change is due to the rapidly expanding area from which the students come. In 1960 the entering freshmen came from twenty-one counties and thirty-five different high schools. In 1963 the total student body came from fifty-three counties and 138 high schools.

The median high school rank of entering freshmen has risen from the seventieth percentile in 1960 to the eighty-first percentile in 1963. Those graduating in the upper quarter of their high school graduating classes in 1960 totaled forty-one per cent of the student body, whereas in 1963 fifty-nine per cent came from the upper quarter of their graduating classes. Other achievement and aptitude test scores have shown equally striking indications of the upward trend in the quality of entering University of Minnesota, Morris, freshman students.

A change in the educational objectives of students attending the University of Minnesota, Morris, has been equally significant, for there has been a marked increase in students choosing a major in the liberal arts areas—a major which allows them to remain on the Morris campus for four years and

receive their degree at this institution. In 1960 only twenty-nine per cent were interested in such liberal arts major; but in 1963 over sixty per cent have selected liberal arts majors, and approximately thirty per cent are enrolled in the preprofessional areas.

Admissions—A new admissions policy was put into effect in the fall of 1962 based upon the data and experience with freshmen entering the University of Minnesota, Morris, during the two previous years of the college's existence. In general admission is granted to applying students with a CAR of 40 per cent. Minnesota high school graduates with a high school rank of the sixtieth percentile or above, Minnesota Scholastic Aptitude Test scores of the thirtieth percentile or above, and American College Test composite standard scores of nineteen are automatically admitted without further consideration. For those applicants who do not meet all of the above requirements, a four-man admissions board will review their applications, taking into consideration academic record in high school, the pattern of available college aptitude and intelligence test scores, and other pertinent data available from the high school transcript. The board will then make a decision either to accept the student without further delay or gather additional information. Such admission procedures provide flexibility and greater promise in giving a true assessment of the individual's true ability for college success.

The number of applicants has increased approximately fifty per cent from 1960 to 1963. The percentage of total applications rejected, however, has remained relatively the same, primarily because of the process of self-elimination by students prior to submitting applications.

Organization—During the 1962-64 biennium sufficient stability has been reached in the rapidly expanding program on the Morris campus to achieve a form of administrative and academic organization which is most suitable for a campus physically separated from the Minneapolis campus of the University of Minnesota.

The Dean of the college, as chief administrative officer, implements his responsibilities through his staff, consisting of the Assistant Dean, Informational Representative, Director of Admissions, Director of Counseling, Director of Residence Halls, Business Manager, Director of Student Services, Librarian, and Athletic Director.

In 1962 the four academic divisions—Education, Humanities, Social Science, and Science and Mathematics—were formed as the most efficient means of organizing and implementing the academic responsibilities of the institution, whose faculty numbered fifty-nine by the fall of 1963. The faculty as a whole and its standing committees act as the policy-making body with respect to the educational and student personnel programs. A faculty constitution is now near its final draft before being presented to the faculty for consideration, discussion, emendation, and ratification.

An *ad hoc* committee of senior faculty members on the Morris campus joined in a series of meetings with the Dean to discuss an increasing liaison with the Senate committees on the Minneapolis campus of the University in order to facilitate lines of communication between the campuses and take part in policy-forming actions in the Senate wherever those policies would affect the Morris Campus.

In the fall of 1963 a Placement Service was initiated for graduating seniors to assist making known job opportunities and arranging interviews between employers and prospective employees. This service is under the responsibility of the Director of Student Services, who, working with a committee, is continuing to develop policies and procedures which will guide the operation of the entire placement program.

In order to accommodate the rapidly growing student enrollment with adequate housing, two new dormitory units will be under construction during 1964. Monies for these dormitories have come from a federal loan of \$480,000. Each of the two units will house sixty students; when completed, the facilities on campus will accommodate 460 students.

The first fraternity house associated with the Morris campus was purchased by the Gamma Delta Rho fraternity, providing the group with facilities to house twenty-two members. Presently the organization, which is

composed of seventeen students, is seeking to become an authorized local chapter of a national fraternity.

The West Central Educational Development Association has continued its support of the University of Minnesota, Morris, through the annual "Dollars for Scholars" fund, through which the organization has raised over \$23,000 for student scholarships. Many of the contributors from businesses and private parties have established \$300 recurring sustaining scholarships. Two memorial funds have been established by families in the area to fulfill the same function, and from another source 100 shares of capital stock have been presented to the University as a means of income for a recurring sustaining scholarship.

Needs—The future development of the University of Minnesota, Morris, will be most seriously limited if academic facilities and student housing are not provided in time to meet the potential of the college. Despite the fact that the University of Minnesota, Morris, has just become a four-year liberal arts college, the entire campus and staff are still in a state of growth and development which will, if allowed, continue for at least another decade.

Most pressing is the need for a library building and funds with which to bring the library collection to even the minimum standards for a liberal arts college the size of the University of Minnesota, Morris. The library's present holdings of 13,000 volumes is only one-fourth the *minimum* holdings for an adequate working collection and approximately one-tenth the size of a recommended high-standard collection. As student enrollment increases and additional majors are added, the problem will become more serious unless adequate funds are made available to increase the acquisition rate of the library, until the collection has reached the high standard which the University has maintained.

Even without taking into consideration the upward revised estimates of future student enrollment, the Morris campus will need approximately 150,000 square feet for additional academic facilities—such as a science and mathematics auditorium, a library, and a physical education building—to adequately handle a student population of 1,000. The goal is to provide housing on campus for three-fourths of the student enrollment. This goal necessitates a continuing building program for student residences as student enrollment continues to increase. If such a goal is not possible, then living units and fraternity and sorority houses in the city of Morris must be developed to increase the housing accommodations in the community.

Four new liberal arts majors must be added to the curriculum in the near future in the areas of philosophy, speech, chemistry, and physics. The additional courses needed for these majors would in turn create the need for seven additional faculty members. Further development of the summer school program is also anticipated in terms of broader offerings in the standard curriculum as well as exploring the needs for workshop sessions of three to five weeks in length for high school teachers in the various fields of the arts and sciences or for the gifted high school student who wishes to benefit from such a period of concentrated work or study on a single project or topic. The University of Minnesota, Morris, will also begin to explore the possibilities for utilizing the tutorial method of instruction within the liberal arts college in order to encourage creative, independent thinking and study in the experience of every capable student on the campus.

—RODNEY A. BRIGGS, dean

MINNESOTA MUSEUM OF NATURAL HISTORY

Research—Research projects supported by both the University and outside grants continue to produce significant results, as indicated by continued support by the various foundations. The following have been active for the periods indicated during the biennium:

1. The Maud and Louis Hill Family Foundation: \$126,134, November 1, 1961 to October 31, 1964. D. W. Warner and John R. Tester (joint project with Institute of Technology). A study of motile responses of animals to radiation fields and other environmental factors.

2. U.S. Atomic Energy Commission: \$12,402, May 1, 1962 to April 30, 1963; \$14,091, May 1, 1963 to April 30, 1964; \$17,020, May 1, 1964 to April 30, 1965. W. J. Breckenridge and John R. Tester. Radiation and other factors influencing the distribution of animals.
3. U.S. Atomic Energy Commission: \$36,609, October 15, 1963 to October 14, 1964. John R. Tester. Effects of Ionizing Radiation on Certain Aspects of the Breeding Behavior of Selected Species of Anatidae (Waterfowl).
4. National Institutes of Health: \$14,527, May 1, 1963 to April 30, 1964; \$14,287, May 1, 1964 to April 30, 1965. D. W. Warner and Eugene LeFebvre. Energy Requirements of Birds under Varying Activity Levels.
5. National Institutes of Health: \$97,046, July 1, 1960 to June 30, 1963; \$45,921, July 1, 1963 to June 30, 1964. D. W. Warner. Ornithology, mammalogy, ecology, microbiology and tropical medicine.
6. University of Minnesota Agricultural Experiment Station: \$2,400, January 1, 1962 to June 30, 1963. John R. Tester. Studies of parasitic egg-laying behavior in Redhead Ducks.
7. University of Minnesota Graduate School: (six grants) \$8,343. W. J. Breckenridge, H. L. Gunderson, J. R. Tester and D. W. Warner.

Publications—The Museum and the University Press cooperated in approving a project new to such educational institutions—the use of University published materials as premiums in cereal advertising. Mr. Cyril Plattes, vice president of General Mills, has long advocated serious educational materials as boxtop cereal premiums. He suggested the use of 30 of the 92 color bird plates originally illustrating Dr. T. S. Roberts' "Birds of Minnesota" in General Mills advertising. This project has proved a highly successful educational as well as advertising venture. The University is dividing the income between the University Press and the Museum, with the Museum's share to date totaling \$3,953.31. This is further considered to be good advertising for the entire series of plates published by University Press as *Bird Portraits in Color*.

State Park Naturalist—The fiscal year terminates in the midst of the period of greatest activity of this public education service of the Museum. This report will summarize activities of only the last portion of the 1962 season and the summer of 1963. Hereafter biennial reports will cover the services of the preceding two summers.

The major problem with this service is meeting the urgent demands for expanded service with the limited finances available from the Division of State Parks. Our self-guiding nature trails have been especially popular, and many park supervisors are asking for the establishment of trails in their parks. These requests have been partially met mainly through the energetic efforts of Mr. D. K. Lewis. Two additional trails were set up, and 9 older trails received complete renovation during 1962 and 1963, bringing the total to 15. These trails served approximately 125,514 park visitors. Five naturalists served during the two summers in Itasca (2), Whitewater, Gooseberry Falls, and O'Brien-Interstate. Their trail walks, boat trips, and car caravans contacted 17,696 park visitors; their evening programs were attended by 50,483, and the Museums maintained by them or in parks not served by naturalists received 719,000 visitors. Throughout Minnesota, 15 State Parks offered some form of natural resources interpretation, while plans were underway in 8 additional parks, to put 23 State Parks in this University of Minnesota—Minnesota Department of Conservation cooperative educational service.

Gifts—As in the last biennium recent emphasis has been placed on securing financial aid for the new Museum wing. Our goal for non-state funds was originally \$250,000. This was later raised to \$280,000 and still later to \$300,000. At present the latter goal has been slightly exceeded. The Museum wishes to thank Mr. Whitney Eastman for his most effective work on this project and the numerous donors who so generously supported this effort.

Various museum friends have donated 3,055 specimens to our collections of birds, mammals, reptiles, and amphibians; The Wilkie Foundation of Savage, Minnesota, aided an ornithological expedition to Alaska with a gift of

\$1,000; Mrs. Cora Wahl of St. Ansgar, Iowa, donated \$750 toward a new habitat group; Mr. Kent Gormley gave \$200 toward a Passenger Pigeon group; the Minneapolis chapter of the Audubon Society donated a valuable specimen of the extinct Passenger Pigeon which is not incorporated in that exhibit; Mrs. Julian Brandon of Minneapolis gave a bird egg collection of 50 sets of specimens; Dr. George Rysgaard donated 400 feet of edited 16 mm. color motion pictures and 102 2x2 color slides for our educational file; Mr. R. G. Kendall donated a collection of 1,250 prepared scientific bird skins.

Attendance—Conducted tours through our exhibit halls were provided by Museum staff guides for 869 organized groups (424, 1962-63; 445, 1963-64) of school students totaling 26,204 (12,940, 1962-63; 13,264, 1963-64). In addition 342 organized groups (197, 1962-63; 145, 1963-64) totaling 17,235 students (9,366, 1962-63; 7,869, 1963-64) studied the exhibits under their own teachers.

Our free Sunday Afternoon Programs have been provided on 21 Sundays each year, but with 49 programs given since double presentations were required on 7 Sundays to accommodate overflow attendance. The total attendance at these programs was 19,680 (8,105, 1962-63; 11,575, 1963-64).

Exhibits—Three permanent exhibits have been installed. One depicts the extinct Passenger Pigeon nesting in the Minnesota Valley near the Twin Cities. This painted habitat background will perhaps be the last of our excellent series of group backgrounds painted by the nationally known outdoor artist, Francis Lee Jaques, since he declares he is finally retiring from such assignments. We are greatly indebted to him for what is one of the finest series of Museum habitat exhibit settings in existence today. Our newly employed preparator, Mr. Alfred Martin, has constructed 14 temporary exhibits during 1963-64 which have been on display for varying periods of time. We are thus changing corridor displays more often.

Future—The major advance in the Museum's functioning during the coming biennium will concern the construction of the new wing, a T-shaped addition of 4 floors 115' x 50', on the west end of the present exhibition halls. The basement and top floors are to be finished for research activities during 1965. The University's legislative request for \$280,000 was cut in half, thus necessitating the leaving of the middle two floors unfinished. These will eventually house exhibits which will place major emphasis on geology, mainly paleontology, and anthropology, and temporary displays exhibited for a few weeks or months, then circulated to state parks or other appropriate institutions.

It is hoped that in the near future a paleontologist can be added to the staff as Curator of our collection of fossil material, mainly Ice Age vertebrate specimens; to initiate continuing research in Glacial Age life; and to act as state paleontologist available on short notice, to preserve with adequate data prehistoric animal remains now so frequently being excavated in today's massive dirt moving operations. At present this valuable source of scientific data on the life of Minnesota's past is being rapidly and irretrievably destroyed. We are strongly supported in this planned staff addition by the present Department of Earth Sciences and the Minnesota Geological Survey. Broadening the coverage of subject matter and the physical extension of our exhibit halls will make it possible to expand our educational service to schools and to the public and will require additional staff.

—W. J. BRECKENRIDGE, *director*

DEPARTMENT OF NAVAL SCIENCE

During the biennium the Naval ROTC Unit continued its primary mission of providing, by a permanent system of training and instruction in essential naval subjects at civil educational institutions, a source from which qualified officers may be obtained for the Navy, the Marine Corps, the Naval Reserve, and the Marine Corps Reserve.

The NROTC Unit also continued to hold command and administrative responsibility for naval personnel attending the University under other college training programs sponsored by the Navy Department.

Annual NROTC enrollment consists of two main groups—the "Regular" NROTC students and "Contract" NROTC students. Both groups follow the same Naval Science curriculum. The Regular NROTC student is a candidate for a commission in the Regular Navy. His training is subsidized by the Navy, i.e., tuition, fees, books and monetary benefits.

The annual enrollment in the Regular Program has remained stable, as the benefits to the student are so great that there are always many more applicants than can be selected. Enrollment of incoming Freshmen Regular students this biennium is as follows: Fall, 1962—38; Fall, 1963—34. Total for this biennium—72, compared to 72 for the last biennium.

Contract student enrollment has decreased during this biennium, a fact which shows the effect of a more selective screening process being carried out by the NROTC Staff. About one of every two applicants for the Contract program has to be turned down for various reasons. Enrollment of incoming Freshmen Contract students this biennium is as follows: Fall, 1962—43; Fall, 1963—40. Total for this biennium—83, compared to 114 for the last biennium.

The Naval Science curriculum remained substantially the same as during the preceding biennium. Curriculums are under constant review to keep students abreast of modern naval practices, and significant progress has been made in maintaining and improving the educational value of the courses offered.

All Regular NROTC students participate each year in a summer training period either on board a naval vessel or at a Naval Shore establishment. Contract students participate in only one such cruise.

NROTC Midshipmen have the option at the end of their sophomore year to continue in the Naval Line Officer program or select either the Supply Corps Option or the Marine Corps Option programs which are offered by the NROTC Unit at this University. The Supply Corps option program leads to a commission as an Ensign in the Navy Supply Corps while the Marine Corps Option leads to a commission as a Second Lieutenant in the U.S. Marine Corps.

A relatively new program added to the NROTC program is a Flight Indoctrination Program, which is designed to motivate NROTC students toward Flight Training. Qualified seniors are given 35 hours of flight instruction by private flight organizations along with associated ground school.

The following table provides data concerning members of the department who served during the biennium:

TABLE I. MEMBERS OF THE DEPARTMENT OF NAVAL SCIENCE

Name	Grade	Reported	Departed
Edward M. Morgan	Capt., USN	18 Aug. 1962	
Arthur J. Sullivan	Lt.Col., USMC	15 July 1962	
Edward B. Meyer	Maj., USMC	15 Aug. 1960	24 June 1963
Charles Firmian	Maj., USMC	29 Aug. 1963	
Ian G. Pottinger	Lcdr., Sc., USN	18 Aug. 1962	
George C. Greene	Lt., USN	19 Aug. 1963	
Stanley B. Palmer	Lt., USN	4 Sept. 1962	
Larry K. Simmering	Lt., USN	11 July 1960	23 Aug. 1963
George A. Sissel	Lt., USN	21 Aug. 1961	31 July 1963
Joseph M. McCabe	Lt., USNR	27 Aug. 1959	30 June 1963
Michael J. McCabe	Lt., USN	19 Aug. 1963	
John M. Richardson, Jr.	Lt., USN	22 Aug. 1963	

NROTC Graduates During the Biennium—NROTC graduates of the University of Minnesota were commissioned as follows:

	Academic Year 1962-1963 (Including Summer Session 1962)	Academic Year 1963-1964 (Including Summer Session 1963)
Ensign, N. S. Navy	22	26
Ensign, U. S. Navy Reserve	4	9
2nd Lt. USMC	3	3
2nd Lt. USMCR	0	0

Total for Biennium—67

All students who qualified for commissions were ordered to active military service within a month of being commissioned.

—E. M. MORGAN, *Captain, U. S. Navy*

COLLEGE OF PHARMACY

Undergraduate Enrollment—Undergraduate enrollment increased appreciably in the biennium, 1962-64. The average of fall quarter enrollments (229) exceeded that for the previous biennium (176) by 30%.

Year	Summer Session		Fall	Winter	Spring
	I	II			
1963	21	26	228	229	216
1964	32	.....	230	221	218

The total enrollment (last three years) of students in colleges of pharmacy throughout the country decreased by 1.8% in 1962-63 and 3.1% in 1963-64. In contrast, enrollments of students in the last three years at the University of Minnesota, College of Pharmacy, increased during this period: 43% in the 1962-63 period and 11% in 1963-64. In 1962-63, the College of Pharmacy had the largest net gain of students (54) in the last three years of the curriculum for any college of pharmacy in the country. In 1963-64, it was among the top nine colleges in respect to net gain of students (19). However, the number of students entering the College of Pharmacy in 1963-64 (and apparently in 1964-65 also) has decreased. Data are not yet available to show that this drop reflects a national trend or a local situation. It is possible that certain factors that have operated against enrollments in colleges of pharmacy in other parts of the country are just now making any impact on local enrollments—e.g., the effect of predatory merchandising tactics and low pricing of prescriptions on the attitudes of community pharmacists who advise young people to study pharmacy or not to study it.

The AACP reports also show that in 1963-64, 199 of the 276 students (72%) residing in Minnesota and in the last three years of the curriculum were enrolled in the University of Minnesota, College of Pharmacy. In 1962-63, the proportion was 176:257 or 68%.

Graduate Enrollment—The average enrollment of graduate students in the last biennium (38-39 students) increased slightly in comparison to the average enrollment in 1960-62 (34 students). The increase would have been much greater if students had enrolled in the College's division of pharmacology. Enrollments in the division of pharmaceutical technology increased considerably, from an average of 7 students (1960-62) to 11 students (1962-64). Moreover, two students were enrolled in the division of pharmacognosy in 1962-64 (this division had no graduate students in 1960-62).

Graduate student subsidies, which are essential in recruitment, have increased considerably as a result of research project grants awarded to members of the faculty by the National Institutes of Health, the National Science Foundation, and other agencies. In 1962-63, four graduate students had research assistantships; in 1963-64, seven students had subsidies of this kind. Prior to the biennium 1962-64, only one research project grant was in operation. During the biennium, the number of research project grants has increased to six. Three of these will have larger salary budgets on renewal, and one additional grant has been approved.

Three additional teaching assistantships (BH50) have been added to the College's budget, further increasing the support that can be given to the graduate student program. Unfortunately, the stipend for teaching assistants is no longer competitive, and the low stipend resulted in serious recruitment problems in 1963-64. A substantial increase in the salaries for teaching assistants would enable the College to recruit a number of students who want to come to the University of Minnesota but who receive better salary offers elsewhere.

The distribution of graduate students according to their major fields is as follows:

Year	Pharmaceutical Technology	Pharmaceutical Chemistry	Pharmacognosy	Pharmacology
1962-63	9	15	2	0
1963-64	13	19	2	0

Degrees Conferred

Year	B.S. in Pharm.	M.S.	Ph.D.
1962-63	31	1	0
1963-64	41	4	2

Curriculum—The five-year curriculum for the B.S. in Pharmacy degree provides very substantial training, on one hand, in the physical sciences (especially chemistry) and, on the other hand, in biological sciences. This bilateral training is essential for adequate training in the applied area, pharmaceutical technology, and for professional services for which many of the graduates will be responsible. The information and problems encountered in pharmacy practice involve, almost invariably, the response of a biological system to some applied agent or other modality. The former component requires training in biological science (especially pharmacology); the latter component (a drug, for example) requires training in physical sciences (especially pharmaceutical or medicinal chemistry). This bilateral training in physical science and biological science is also needed by the substantial proportion of the graduates of the College who undertake graduate study in the pharmaceutical sciences or enter a medical school. The faculty, accordingly, seeks to improve the curriculum with the above considerations in mind.

During the past two years a study has been made of the sequence of courses in biological sciences for which pharmacology is the capstone. In the past, the students have been required to take pharmacology throughout their junior and senior years. A study of the syllabi of the pharmacology courses in the junior year revealed considerable duplication with those of the final series of courses in this field taken in the final year (Phcl 101-102-106). With the help of the departments concerned, the faculty has reduced the earlier 3-quarter sequence to a 1-quarter course and has added a course in anatomy (Anat 3). Moreover, the course in physiology required in the curriculum (Phsl 60) is to be enriched by one additional lecture per week. Eventually it is hoped elementary instruction in pathology will be included either as a separate course or as part of a course already required. As a result of these changes, the students will be better prepared for the courses in pharmacology that they take in their final year. They will also be better prepared for graduate degree programs in pharmaceutical (medicinal) chemistry and pharmacology.

In response to the demand of prospective students and to the manpower needs of the profession, a graduate degree program, leading to a Master of Science in Hospital Pharmacy, has been developed and has been approved by the Graduate School. This program has already attracted a number of students and an active interest on the part of Federal agencies, United States Public Health Service, and Veterans Administration. The USPHS is using the program in the training of its personnel, and the VA is supporting internships and residencies that are integrated with the program.

An adjustment has been made in the courses offered by the division of pharmaceutical technology. Courses in pharmaceutical calculations (PhmT 3) and in dispensing pharmacy (PhmT 58-59-60) have been reduced slightly to provide the time for expansion of course work in physical pharmacy from a 1-quarter course (PhmT 54) to a 2-quarter sequence (PhmT 53-54). This shift in emphasis reflects changes in the practice of pharmacy wherein a greater need and demand for intellectual skills is replacing somewhat the need for manipulative skills. It also reflects the shift of the practice of the pharmacist from an almost purely empirical basis to a sound scientific basis.

Physical Plant—The budget for the remodeling of Appleby Hall was limited and, in the acceptance of bids for the work, a number of the facilities

included in the planning had to be deferred with the intention of correcting the deficiencies at a later time. Some of the minor deficiencies have been corrected during the biennium. Plans for the completion of the pharmacognosy research laboratory in Appleby Hall (Room 206) have been drawn up, and funds for the work have recently been made available. Units that are still practically non-functional because of remodeling and equipment needs include a sterile products laboratory in the manufacturing pharmacy area and the high pressure laboratory in the penthouse. Many of the facilities that were put into operation through the original remodeling are only partly functional or lack the furnishings necessary for their optimal use and appearance. Hopefully, funds will be made available during the coming biennium to correct many of these deficiencies.

In the remodeling of Appleby Hall, adequate space for the undergraduate instruction program was the prime consideration. Additional space is now urgently needed for the graduate instruction program, research, library, and faculty office-laboratory combinations. Approximately 26 stations are available for graduate student laboratory instruction and research. At least double this number is urgently needed. A wing on the north end of Appleby Hall has been included in the ten-year plan for the Minneapolis Campus. The additional space will be completely used as soon as it is made available.

The College's greenhouse on the Minneapolis Campus is in poor condition, and the continuing need for a new greenhouse is also reflected in the ten-year plan.

Library—A closed and illuminated case for the Wullig collection of old and rare books was provided by the Class of 1960 in memory of James A. Hafner, who died as a result of an automobile accident.

Scholarships and Fellowships—During the biennium, 65 scholarships (\$15,850) were awarded by the faculty of the College of Pharmacy to undergraduate students in the College of Pharmacy or in the prepharmacy program in the College of Liberal Arts. During the biennium, three of the previous sponsors did not contribute scholarships, but four new scholarships were established: Benjamin M. Cohen Memorial Scholarship; McKesson and Robbins—Minneapolis and St. Paul Divisions—Scholarship; Rowell Laboratories, Incorporated Scholarship; and William M. and Mildred E. Peters Scholarship.

Fellowships were awarded to graduate students in the College of Pharmacy by the American Foundation for Pharmaceutical Education (4), the Samuel W. Melendy Memorial Fund (7), and the Upjohn Company (1).

Continuation Study—Two Continuation Study Courses in Pharmacy were held during the biennium under sponsorship by the College of Pharmacy and the Center for Continuation Study. The Twenty-Third Course was held November 8-10, 1962 (33 registrants) and the Twenty-Fourth Course, February 12-13, 1964 (56 registrants). Samuel W. Melendy Memorial Lectures were given on these occasions by Dr. George F. Archambault (Chief, Pharmacy Branch, United States Public Health Service) and Dr. W. Paul Briggs (Director, American Foundation for Pharmaceutical Education).

Minnesota State Board of Pharmacy—The Board conducted four examinations for licensure of Registered Pharmacists during the biennium. The record of the graduates of the College is summarized below.

Date of Examination	Passed	Failed
July, 1962	15	0
January, 1963	16	0
July, 1963	12	0
January, 1964	11	0

Staff Services—The faculty of the College of Pharmacy serves the profession by serving on various federal agencies (particularly in the areas of information retrieval and scientific communication by modern methods), on boards and conferences of the American Chemical Society and other local and national professional societies, and on the advisory boards of professional journals. The faculty also renders significant and continuous service to the profession and the pharmaceutical industry not only through formal consul-

tantships but also by its responses to the many inquiries that are received every day.

—GEORGE P. HAGER, dean

SUMMER SESSION

This report covers the 1962 and 1963 Summer Sessions. While the 1964 Session began in the last month of the biennium, comprehensive data are not available for the whole of it, and it is not discussed here.

Increased enrollments marked both the 1962 and the 1963 Summer Sessions as the numbers of students neared the record levels which followed World War II. The 1962 Summer Session enrollments increased 3.7 per cent over those of 1961, with a total of 18,824 students in the two terms. The 1963 increase was 11.4 per cent, with 20,982 in the two terms. Enrollments in the first term of the 1964 Session continued this rate of growth.

For a substantial number of students, the Summer Session continues to serve as a "fourth quarter." In 1963, more than half of the students enrolled in the Summer Session (53 per cent) were students who had been enrolled in the regular academic year at the University.

While Summer Session students enroll in all Colleges and Departments of the University, the greatest share (70 per cent) enrolled in three: the College of Liberal Arts, the College of Education, and the Graduate School. Most interesting is the rapid increase in the numbers enrolled in the College of Liberal Arts, which in both the 1962 and the 1963 Sessions had the highest gains.

Less than one-half of the Summer Session students enrolled in both terms in 1963. While the total of enrollments in the two terms was 20,982, the unduplicated total was 14,696. Of the total, 6,286 or 42.7 per cent enrolled in both terms.

With an increase in the number of students who enter the University as freshmen in the Summer Session, a study was made of those entering during the summer of 1963. There were 191 such students, with the largest number enrolling in the College of Liberal Arts. Approximately two-thirds continued their enrollments in the University in the fall quarter of 1963. An analysis of test scores and high school rank, together with grades achieved during the Summer Session, indicated that these students were prepared for college as well as or better than those entering as freshmen during the fall quarter, and achieved in the Summer Session as well as or better than those entering in the fall quarter.

In 1962 a Summer Session program was offered for the first time on the campus of the University of Minnesota, Morris. Enrollments in the first year totaled 60. In 1963 they increased to 81. In each year only a single five-week term was offered at Morris.

In both 1962 and 1964, efforts were made to strengthen the summer faculty in the upper ranks by increasing maximum salaries paid. In 1962 the maximum was increased from \$1,250 to \$1,350. In 1964 an additional \$100 increase was established, raising the maximum to \$1,450. In 1962 increases in the Summer Session fee structure were undertaken to help meet the cost of the increased salary level. In 1964 it was possible to grant the salary increase without raising tuition. The fact that tuition in the regular academic year was increased in 1963-64 without a commensurate increase in the 1964 Summer Session tuition helped to bring the two more closely together. The Summer Session student continues to pay a premium tuition, however.

The more than 1,000 courses drawn from the regular academic curriculum were supplemented by a wide variety of workshops, institutes, and special programs, in both 1962 and 1963. In this respect the Summer Session provides the student with unique study opportunities, permitting him to continue work toward a degree, while at the same time having available educational experiences not possible during the regular academic year. The National Science Foundation and the Louis W. and Maud Hill Family Foundation made possible a number of the special programs. Included were institutes for high school and college teachers in science and mathematics, and a special institute in radiation biology.

Resident houses for graduate and undergraduate students majoring in French and German were again sponsored by the Modern Language Institute. Language institutes in Spanish and German for elementary school teachers were supported by funds from the National Defense Education Act.

In 1932, an interdisciplinary course in Social Change in East Asia was made possible through the Louis W. and Maud Hill Family Foundation. In 1963, an institute providing for intensive study of Public Administration was available to government employees.

A highlight of the 1933 Summer Session was the opening of the Guthrie Theatre in Minneapolis and the opportunity it presented to develop a Theatre Symposium based on the plays offered by the theatre and making use of members of the Minnesota Theatre Company and the many distinguished visitors who came to the Twin Cities to attend performances at the new theater. Among these were Sir Tyrone Guthrie, Hume Cronyn, Jessica Tandy, Arthur Miller, Alan Schneider, and many others.

In 1932, the School of Public Health offered once more its course in Ground Water Supplies Development. Supported by the World Health Organization and the Agency for International Development of the State Department, the course was designed for and enrolled engineers employed in developing countries.

A visiting lectureship in chemistry was sponsored by the Minnesota Mining and Manufacturing Company, making possible the appointment of distinguished persons from other countries to serve with the Department of Chemistry during the Summer Sessions.

The Summer Session continued to provide to students and to residents throughout the Twin City area a wealth of cultural offerings. The Department of Concerts and Lectures presented an exciting and varied program of concerts, lectures and special features. The staff of the Coffman Memorial Union provided a varied program including an Arts and Crafts Studio, bowling, square dancing, and ballroom dancing. Exhibits of special interest were presented in the University Gallery and the Museum of Natural History. Newsreels and educational films were presented weekly for free viewing. As in past years, a vital and exciting part of the summer program were the productions of the University Theatre. The Centennial Showboat continued to attract capacity audiences throughout both of the Summer Sessions.

—WILLARD L. THOMPSON, *dean*

INSTITUTE OF TECHNOLOGY

During the biennium 1962-64 the programs in the Institute of Technology experienced a steady growth and development. The changes in the Lower Division program initiated during 1960-62 were further implemented during the biennium 1962-64.

Following the transfer of the Department of Geology into the Institute of Technology, and the consolidation of geology and geophysics into a single department, degree programs for B.S.Geol. and B.S.Geophys. were approved. For purposes of curriculum planning in Astronomy, the Department of Astronomy and the School of Physics have been combined into a single curricular unit, identified as the School of Physics and Astronomy, with a single curriculum committee.

The graduate programs in the Institute of Technology have shown a steady growth. The level of support for research from funds not appropriated by the Legislature has increased from approximately \$5.5 million to \$7 million during the biennium. The Ford Foundation Forgivable Loan program for graduate students in engineering, which was established at the University in 1961, has been supplemented by two additional grants of \$60,000 each, for a total of \$270,000.

Organizational changes during the biennium include the following:

1. The combination of the two departments of mathematics at the University into a single School of Mathematics in the Institute of Technology.

2. The combination of the Department of Metallurgy in the School of Chemistry and the Department of Mineral and Metallurgical Engineering in the School of Mines and Metallurgy into a single department. At the same time, the title of the School was changed to School of Mineral and Metallurgical Engineering.

One of the more significant developments in the biennium has been the growth and increasing importance of the work of the several interdepartmental laboratory centers which are associated with the Institute of Technology. For this reason this report will emphasize the work of these centers through individual reports from each on a typical year of the biennium, the year 1963-64. Integration of the activities of these centers and the related graduate programs in I.T. represents a common characteristic of these associated laboratories.

—ATHELSTAN SPILHAUS, dean

Numerical Analysis Center

In the year July 1, 1963 to June 30, 1964 the Numerical Analysis Center utilized a total of 4188 hours on the CDC 1604-160 computer complex on an average operating time of 16 hours per day for a five day week. These hours represent direct production computing for 62 different departments of the University and do not include the time spent weekends by N. A. C. personnel in improving the monitor systems and compilers. Approximately 40% of this time was utilized by faculty members on research projects either under contract or without external funding. The remaining 60% of the time was utilized by students in connection with their academic programs.

The breakdown of computing time utilized by the students is approximately as follows. The computer programming courses Math 164-5-6 and Math 65 in the day school used 250 hours in laboratory time. This total represents approximately 350 students, including the one quarter course in summer school. Roughly half of these students were from the departments in the Institute of Technology, the remainder representing some thirty other departments of the University. In addition to the day-school students in these courses, another 200 students took them in the Extension division, utilizing 175 hours of computer time for laboratory. These students came from 35 companies in the Twin Cities area.

Besides the computer programming courses offered in the Department of Mathematics, various departments in the Institute offer courses in the application of digital computers to the specific problems of their disciplines. For these the Numerical Analysis Center provides staff to lecture on programming in the courses and provides an additional 200 hours of computer time for the running of problems.

The remaining student utilization of 1604—160 computer time is in connection with the completion of thesis work for graduate degrees. This usage makes possible the investigation of problems which would otherwise be impossible.

The Numerical Analysis Center also provides Analog computer time to students, primarily to a course given in Electrical Engineering. The Analog time made available to students was approximately 350 hours.

Besides the computer time the N. A. C. staff also provides consultation on programs, and offers brief two-week orientation courses in Fortran and Algol. These services are open to both students and staff. The consultation is provided continuously, and during the year 1963-64 four courses in Fortran and three courses in Algol were presented. These courses provide no credit and are offered simply as a service to users of the computer with no fee attached.

—WILLIAM D. MUNRO, acting director

St. Anthony Falls Hydraulic Laboratory

Sponsored Research—Twenty major sponsored research projects were undertaken by the staff at the St. Anthony Falls Hydraulic Laboratory during

the year. Each of these projects has been the responsibility of one of the members of the teaching staff in his field of interest. In most cases the principal investigator was assisted by a senior graduate student or postdoctoral fellow who actually supervised the day-to-day operations, who was, in turn, assisted by less advanced graduate students and by undergraduate students.

There are two broad areas of sponsored research. In one—which may be called Hydromechanics—studies of hydrofoil behavior, cavitation, and flow of non-Newtonian fluids were among the principal subjects of research. Sponsorship was largely by the U.S. Department of the Navy through the Bureau of Ships and the Office of Naval Research. The second area—which may be called Water Resources—involved mainly hydraulic structures and river control problems of a civil engineering nature. Projects in both East and West Pakistan, Canada, Venezuela, the Philippines, and the United States were under way during the year. Included in the latter were a project on the St. Louis River in connection with the development of the taconite industry, a project on the St. Croix River for a large steam generating plant to supply the Twin Cities area, and a small project for the City of Minneapolis. In addition to the usual publications generated by this research, the Laboratory continued with its production of motion picture reports. One of these is being sponsored by the International Bank for Reconstruction and Development for the purpose of illustrating the World Bank's role in the development of the Indus River Basin in Pakistan.

Cooperative Research—Three U.S. government agencies maintain Civil Service personnel at the Laboratory who cooperate with the regular Laboratory staff on water control and sediment transport problems. These are the U.S. Geological Survey, the U.S. Army Corps of Engineers, and the Agricultural Research Service of the U.S. Department of Agriculture.

Thesis and Other Research—Facilities were provided by the Laboratory for three Ph.D. and five M.S. thesis research projects. Facilities were also provided in two cases for specialized experiments by other departments in connection with their own contract research and for a senior thesis in Aeronautical Engineering.

Teaching Activities—The Laboratory staff continued its teaching of courses in its research area—the Water Resources courses in the Civil Engineering Department and the Hydromechanics courses. Considerable planning has gone into making more effective use of the research experience of Laboratory personnel in the teaching area. Of the planned changes, one new course has been presented and accepted for teaching next year, and two others are ready for presentation. The five professional staff members had a total of twenty-six graduate student advisees during the year.

Facilities—A new office floor was completed and occupied by the staff on January 1, 1964. This space was provided from overhead funds from research projects and greatly alleviated the cramped quarters in which staff members had been working. The Lorenz G. Straub Memorial Library was established in memory of Dr. Straub, distinguished founder and first Director of the Laboratory, who died during the year. This is a specialized library in Hydromechanics and Water Resources; it is being housed on the new office floor. The Library received and filed a large number of foreign publications in its specialized area through an exchange between this Laboratory and many similar foreign laboratories.

—EDWARD SILBERMAN, *acting director*

Minnesota School Mathematics and Science Center

The Center began in 1958 with a small grant from the Hill Family Foundation. After several years of work entirely supported by grants from the National Science Foundation, the U.S. Office of Education, the National Institutes of Health, and the School Mathematics Study Group, it became a unit within the Institute of Technology in 1962. It now receives support from the University for a secretary and office supplies; but the bulk of its work con-

tinues to be supported by outside agencies. The three grants received during the fiscal year 1963-64 total \$1,351,420.

The Center conducts a broad program of research and development in the teaching of mathematics, ranging from basic research on the formation of mathematical concepts in children to the practical development and trial of new curricular materials in schools and colleges. Its work in science began in 1963; and now, under the leadership of Professor James H. Wertz, Jr., of the School of Physics, it hopes to develop an equally broad program in the natural sciences.

The Center is a new component in the educational system, in which research mathematicians and scientists, psychologists, teacher educators, and schoolmen work jointly to assess research in subject matter and in learning, and translate this research into practical teaching materials. The National Science Foundation and the U.S. Office of Education spent \$28,000,000 on this work during the fiscal year 1963-64, on all levels from kindergarten through graduate school and in almost all branches of the curriculum.

The major current projects of the Center are the Minnesota Mathematics and Science Teaching Project (MINNEMAST), the College Geometry Project, and the Computer and Applied Mathematics Project.

MINNEMAST aims to produce a coordinated science and mathematics curriculum for grades K-9, together with college courses for prospective teachers. During 1963-64, there were about 250 experimental classes in centers managed by 18 cooperating colleges in 16 states, using MINNEMAST materials. The College Geometry Project aims to produce a course for mathematics majors at the upper undergraduate level. It will consist of text, programmed problem sets, and about 100 films. The Computer and Applied Mathematics Project has been teaching each summer (to about 20 gifted high school students and 5 teachers) a course in programming, numerical analysis, and applied mathematics. During the school year the Center provides the teachers with materials, consultant service, and computer time to enable them to teach a 12th grade course along these lines.

Currently the following projects are being carried on by the Center under grants as indicated for the fiscal year, 1963-64:

1. The Minnesota Mathematics and Science Teaching Project. Grants from the National Science Foundation totaling \$1,113,530.
2. The College Geometry Project. Grants from the National Science Foundation totaling \$208,000, with an additional sum of \$112,970 expected.
3. Computer and Applied Mathematics. Grant from the National Science Foundation of \$22,570.

The Center staff overlaps with that of the Minnesota National Laboratory, in the Minnesota State Department of Education, which is engaged in the following related projects:

4. Evaluation of Secondary School Mathematics Curriculums. Grant from the National Science Foundation totaling \$249,000.
5. Correspondence Courses for In-Service Education. Grant from the National Science Foundation totaling \$102,000.
6. Measurement of Students' Attitudes and Interests in Mathematics. Grant from the U.S. Office of Education totaling \$60,000.

This support of our research and development work, on the basis of proposals submitted in open competition and judged on the basis of merit, is an indication of the caliber of the staff and the importance of its work.

Recommendations

1. At present undergraduate and graduate students in mathematical education have virtually no contact with the work of the Center. No one teaching these students is participating in the work of the Center. No one in psychology

or in child development is participating in the research of the Center in cognitive processes or psychometrics. We recommend that the University establish a graduate program in the teaching of mathematics to prepare scholars in the field of work in which the Center is engaged. We recommend that liaison be established between the Center, the College of Education, and the Center for Human Learning.

2. Such groups as the Committee on the Undergraduate Program in Mathematics and the Commission on College Physics are about to inaugurate as extensive a program of research and development in college teaching as has already been established at the school level. The Center, through MINNE-MAST and the College Geometry Project, is already active in this work. It has already acquired, in connection with these projects, graphic arts equipment and an experimental film laboratory which can be used for experimentation in college teaching. We recommend that the Center be authorized to conduct, in cooperation with the appropriate departments, experimentation with new undergraduate courses developed here and elsewhere. Facilities should be provided for this in plans for new classroom buildings to be constructed.

3. At present the Center is housed in temporary facilities which are very crowded. Its major activities during the summer, now involving some 130 people from all over the country, are scattered over seven buildings. This physical separation makes the work extremely difficult to supervise and coordinate. We recommend that, in the University's building plans, suitable space be sought for the Center. It would be desirable for the Center to have a floor in a building which is used by others during the academic year, but which is relatively free during the summer.

—PAUL C. ROSENBLUM, *director*

Mines Experiment Station

Finances

Special State Appropriations	
Fund No. 0327	\$115,298
Fund No. 0301	75,000
Fund No. 0324	50,000
	240,298
Support	89,117
Sponsored Research, excluding University overhead	14,225
Total	\$343,640

These funds were disbursed as follows:

Salaries and benefits	\$273,490
Capital equipment	42,918
Laboratory supplies	10,938
Office supplies, expenses, and travel	7,993
Building alterations and expenses	4,117
Publications	2,709
Computer time	1,475
Total	\$343,640

New Equipment and Laboratories—In order to expand the scope of the work at the Station, the following new laboratories and pilot plants were installed: (1) Radioactive tracer laboratory, (2) X-ray laboratory, (3) Hydro-metallurgy laboratory, (4) Dry concentration laboratory, (5) Agglomeration laboratory, (6) Autogenous grinding pilot plant, (7) Flotation pilot plant, (8) Electrodynamical pilot plant. Much of the equipment used in these laboratories was presented to the Station in the form of gifts or loans. The value of gifts amounted to \$29,300; and the value of equipment on loan amounts to \$85,000.

Brief Summary of Major Projects

Beneficiation of Mesabi Oxidized Taconites and Semitaconites—Considerable effort has been directed toward developing an economic beneficiation

process for Minnesota's enormous reserves of feebly magnetic oxidized taconite and semitaconite. Blast furnace practice now demands that a suitable burden contain not more than about six per cent silica and be in the form of an agglomerate equal to a pellet or sinter. In order to meet these requirements, beneficiation tests were run using high intensity wet magnetic separators (22,000 gauss), froth flotation, and electrodynamic concentration. Bench-scale concentration tests were quite favorable and the concentrates were easily pelletized. On the basis of these tests, the Station was awarded a \$90,000 Area Redevelopment Administration contract to expedite this work. During the coming year, the Mines Experiment Station will test several flowsheets using samples from a wide geographical section of the western Mesabi Range, in order to work out the details of a large-scale pilot plant to be proposed for testing the process on the Range in 1965.

Beneficiation of Cuyuna Range Ore—The Station has carried out numerous beneficiation tests on Cuyuna iron ores, including magnetic roasting, froth flotation, high intensity wet magnetic separation, and electrodynamic concentration. Largely because of the extreme fine-grained nature of most of these ores, none of the processes developed so far appear economically attractive even though several schemes have been developed that will produce satisfactory grade and recovery on selected samples.

Tests are also being carried out to study direct reduction and hydro-metallurgical procedures for handling Cuyuna Range ores. Several procedures have been worked out that produce high-grade products, but due to the difficulties in mining and to the rather small blocks of ore available on the Cuyuna Range, the economics on the processes worked out to date do not appear attractive. The most likely process being considered features the use of a newly developed high-intensity wet magnetic separator followed by froth flotation and agglomeration.

Present iron and steelmaking practice no longer requires large quantities of manganiferous ore as furnace burden. As a consequence, the production of manganiferous ore from the Cuyuna Range has been steadily decreasing. As a result of a rather recent innovation in steelmaking practice—BOF steelmaking—manganiferous ore may again be desired for slag control. The burden requirements, however, will still demand that the manganese be contained in a high-grade, low-silica agglomerate.

Considerable emphasis will be made during the coming year on developing an agglomerate of high-grade manganiferous ore, hopefully utilizing some of the marl deposits on the Cuyuna to produce a self-fluxed or super-fluxed agglomerate.

Tests were also conducted on Cuyuna Range sulfides from Aitkin County. These deposits are rather easily upgraded to produce a high-grade concentrate that could be used as a source of sulfuric acid and as a source of iron. The economics, however, do not at present look favorable because the deposits are small and because the price of sulfur from Canada precludes the capital investment required to utilize the Aitkin County sulfides as a source of sulfur.

Nonferrous Projects—The Mines Experiment Station has worked on three important nonferrous projects during the year. These include work on glacial clays of northeastern Minnesota and kaolinitic clays from the Minnesota Valley, the titaniferous magnetite deposits of Cook County, and the copper-nickel deposits in the Duluth gabbro.

Two areas of Minnesota were drilled by the Iron Range Resources and Rehabilitation Commission to determine the potential of the glacial lake clay deposits. The first was in the area near Cook, Minnesota, in St. Louis County. The clay deposits in this area were formed in an eastward extension of glacial lake Agassiz and consist primarily of "rock flour." While they contain significant quantities of clay-size materials, they contain very little true clay mineral. They have no important economic potential except in the manufacture of relatively low-grade refractory materials. The second area drilled by the I.R.R.C. was in Carlton County just west of Duluth. The clays have a similar origin and composition to those in the Cook area and are equally unattractive. Members of the Mines Experiment Station staff held a meeting with the local Area Redevelopment Administration officials in the Carlton

area early in June to discuss the clay deposits. We have recommended that no additional work be done on these deposits because of their apparent lack of potential.

Our work on the Kaolin clays of the Minnesota River Valley has been undertaken in cooperation with the Minnesota Geological Survey, and also with various private exploration groups working in the area. These clay deposits may have some economic potential in the paper industry, and we have been evaluating any samples which are submitted for examination from the area. Field work is under the auspices of the Minnesota Geological Survey, and it will be publishing a report on these clays in July.

The Mines Experiment Station has run a few exploratory tests on a suite of grab samples collected from the magnetite-ilmenite segregations in the Duluth gabbro. These preliminary results were sufficiently encouraging that additional field work was undertaken this year to collect more sample material and to consider the possibility of obtaining substantial bulk sample material for semipilot plant tests. This project is still under study.

The Station has run flotation tests on samples of mineralized gabbro from copper-nickel deposits obtained in cooperation with the Minnesota Geological Survey. These samples have shown that the ore, though low grade, is readily amenable to concentration. The size and distribution of the mineralized reserves are, however, undetermined, and their determinations are outside the scope of the Mines Experiment Station. Additional sample materials will be collected during the year, both by the Mines Experiment Station staff and in cooperation with the Minnesota Geological Survey.

Integration of the Mines Experiment Station with the Academic Program of I.T. and the University—The Mines Experiment Station is working closely with the School of Mineral and Metallurgical Engineering. Five of the professors in the School of Mineral and Metallurgical Engineering work at least part-time with the Mines Experiment Station—namely, J. E. Lawver, I. Iwasaki, S. R. B. Cooke, A. C. Dorenfeld, and G. Bitsianes.

The present objectives of the Mines Experiment Station are heavily oriented toward an emergency program to increase the iron ore activity in the State of Minnesota. As new magnetite taconite plants are built, and hopefully when some of the present research projects for oxidized taconite are developed to a commercial status, the goals of the Station will shift to more and more fundamental research work in mineral engineering. This means that in the course of the next five to ten years the staff at the Mines Experiment Station must be continually upgraded to be in a position to devote most of its time to fundamental work rather than to the applied program now underway. Even though the relationship between the Station and the academic program of I.T. is now satisfactory, the integration can be made much stronger by expanding the graduate programs under Professors Iwasaki, Lawver, and other Station personnel in order to conduct basic studies that cannot be justified using funds from special State appropriations.

—J. E. LAWVER, *director*

Limnological Research Center

The Limnological Research Center has been organized around a central research group, with laboratories in the School of Earth Sciences of the Institute of Technology, plus Associates from other departments of the University. During the past year the following persons have constituted the central group: H. E. Wright, Jr., Professor of Geology and Geophysics—geology and paleolimnology; E. J. Cushing, Assistant Professor of Geology and Geophysics—pollen analysis; C. R. Janssen, Research Associate—pollen analysis; R. O. Megard, Research Fellow—general limnology and invertebrate zoology. The salaries of Cushing, Janssen, and Megard have come in whole or in part from research grants and other sources. To this group will be added next year Dr. Joseph Shapiro, as Associate Director of the Limnological Research Center and Associate Professor of Geology and Geophysics. Dr. Shapiro has been Assistant Professor of Sanitary Engineering at Johns Hopkins University for several years. His fields of research are chemical limnology and pollution limnology, especially the relations of the organic to the inorganic composition

of lake waters. His research on lake waters will complement the sediment studies which will occupy much of the attention of the rest of the group.

The Associates of the Limnological Research Center include all of the practicing limnologists on the University of Minnesota regular faculty as well as members of the Advisory Committee.

The integration of the activities of the central group with those of the Associates will be accomplished in part through a series of seminars at which research results will be reported and discussed. The first series will be held during fall quarter, 1964. The seminars, which will be open to qualified graduate students, will introduce the activities of the Limnological Research Center to a wider portion of the University and will serve to formulate and develop promising lines of research and to enroll participation of students in this research. Discussions have been started within the Advisory Committee and with other members of the faculty about formulation of an enlarged program of graduate instruction in limnology that will involve several different departments of the University.

A publication series has been started, consisting of a numbered series of papers published in scientific journals by members of Associates of the Limnological Research Center. The research reported in these papers has been supported from various sources, in addition to the Limnological Research Center, including general University funds, National Science Foundation, Office of Naval Research, Petroleum Research Fund, American Chemical Society, and the Hill Family Foundation.

The policy that is evolving for the Limnological Research Center for the next few years will be the support of some of the research of the central group plus subsidy of special projects proposed by Associates. Some of these projects are in the form of pilot projects that are expected to lead to more elaborate investigations that will command independent financial support. During the past year three projects of Associates were thus supported, as follows.

K. S. Deffeyes has begun a study of the carbonate cycle in marl-producing lakes. This study involves making simultaneous measurements of the carbon dioxide, pH, calcium content, and alkalinity in the lake water and studying the relations among the variations. The relations are most easily followed by the use of graphs rather than by complex algebraic equations, and Deffeyes has worked out by use of a computer program the necessary graphs. During the present summer, in cooperation with Dr. R. O. Megard, he is obtaining additional measurements in the field for application to the graphs and is making a special study of nucleation of calcite in lake waters. The project also involves X-ray analyses of marl currently being formed in various environments in the lakes, so that mineral composition may be related to water chemistry. Eventually the studies will be applied to lake-sediment cores.

A second project has been that of Eville Gorham on the decomposition of plant pigments in bogs and lakes. When plants die the bacterial decomposition breaks up the organic tissues, but certain degradation products are left which may provide clues to the chlorophyll and carotenoid production in different environments and to the biochemical processes involved in decomposition. The subsidy in this case provided Dr. Gorham with the opportunity to accelerate the completion of the project, which had been underway for two years, in order to start work on a more comprehensive program concerned with the biochemistry and limnology of lake-sediment with respect to the organic productivity of the lake water—analyses of the oxygen and carbon-dioxide relations, hydrogen-ion concentration, calorific value of organic matter, degradation of pigments, and the content of iron, manganese, and molybdenum and other trace elements.

A third project for which subsidy has been provided will support continuation of the studies in Lake Superior by Professor Theodore Olson, most recently on biological productivity with the collaboration of Professor T. O. Odlaug. The work involves collection of samples of plankton at various depths off the North Shore of Lake Superior east of Duluth along with simultaneous measurements of the temperature, light penetration, pH, and other chemical and physical characteristics of the water. The objective is the determination of the balance between primary producers (algae and other photosynthetic micro-organisms) and secondary producers (zooplankton) in

the lake in relation to the physical and chemical environment. The samples will be analyzed concurrently in the Lakeside Laboratory of the Duluth campus of the University, which has been equipped during past years for this type of work under grants to Professor Olson from the U.S. Public Health Service and from the Water-Pollution Control Commission of the Minnesota Department of Health.

Research grants from non-University sources to the director of the Limnological Research Center on subjects related to paleolimnology have continued to yield interesting results, and these projects have been incorporated into the activities of the Limnological Research Center. Four projects may be mentioned.

(1) "Pleistocene Pollen Studies in Minnesota." Hill Family Foundation. The annual report recently submitted to the Foundation shows eight papers published or put in press during the past year, three graduate theses completed, and the analytical work on two major projects completed.

(2) "Pleistocene Limnology in the Western United States." National Science Foundation. During the last year three reports have been published or placed in press concerning lakes in the Chuska Mountains, New Mexico, and the San Juan Mountains, Colorado; and substantial progress has been made in the paleontological study of the sediments of two lakes in the Wind River Mountains in western Wyoming and one in southeastern Idaho, as well as additional study of the Chuska Mountains area.

(3) "Climatic Changes in the Eastern Mediterranean Region." Office of Naval Research. This project also calls upon the lake-sediment record for climatic reconstructions. Field work in Iran and Turkey involved study of the chemistry and invertebrate zoology of selected modern lakes as well as the collection of sediment cores for microscopic analyses. Chemical as well as paleontological study is being made of the sediments.

(4) "Paleo-ecology of Southwest Peloponnesus." Grant of Hill Family Foundation to Professor Wm. McDonald, Classics Department. Paleontologic study of the sediments of Osmanaga Lagoon near Pylos has revealed a record of past vegetation that may reflect land utilization from Mycenaean times to the present.

During the coming year the integration of the activities of Dr. Shapiro will occupy a major effort of the Limnological Research Center, for laboratory space must be modified and appropriate equipment installed. Dr. Shapiro has already arranged for the continuation of a research grant with the National Institutes of Health on the organic constituents of lake water, and once his laboratory is established he will organize other research projects. The pollen analyses of lake sediments will proceed under the more active direction of Dr. Cushing and will serve as the basis for other paleontological and chemical analyses of the same materials.

The work of Deffeyes and Megard on the carbonate cycle in lakes will continue, and if preliminary results are satisfactory a research grant will be sought from outside sources for enlargement of the study.

Analyses of the organic components of lake sediments (amino acids, carbohydrates, pigments, etc.) will be accelerated by G. A. Sellers, who has been engaged as post-doctoral research fellow to work next year with Dr. Swain.

Some supplemental support will be provided to Dr. Gorham for his new project on the biochemistry of bottom waters and top sediments in lakes, in order to hasten the application of his results to long sediment cores. Preliminary studies will be started in cooperation with Dr. Gorham on the chemistry and stratigraphy of the patterned peatlands and associated water bodies of northern Minnesota.

The paleontological study of lake-sediments, largely supported by outside funds, will bring here next year as Research Associate Dr. Maj-Britt Florin of the University of Uppsala, Sweden, and Dr. R. C. Bright, her recent postdoctoral student, to undertake diatom analyses of sediments. Also to be engaged from outside funds is Dr. Krystyna Wasylikowa, a pollen analyst of the University of Cracow, Poland.

—H. E. WRIGHT, JR., *director*

Electrical Engineering Evening Program

Academic Year	Fall Quarter Enrollment
1961-62	52
1962-63	54
1963-64	143

The marked increase of last fall is due to a number of factors, such as more intensive publicity and the closer personal contact the Department has been able to establish with participating firms. We are anticipating that the enrollment might again go up substantially in the fall of 1964. In addition, at the July, 1964 commencement the first graduate of this program received a Master's degree.

One of the most significant events which occurred in connection with the evening program this year was the establishment of the closed circuit TV link to Rochester, with support from IBM. Two evening graduate classes (one in mathematics and one in electrical engineering) were taught on CCTV, and the general reaction was that this was an excellent way of extending our graduate program to remote locations. The test was not ideal because television was used only during the winter and spring quarters as a replacement for a very unsatisfactory commuting arrangement used during the fall quarter. However, IBM plans to extend its support again for the coming school year, enabling us to properly evaluate this technique.

We have taken the point of view in this department that the evening program shall adhere to the same academic standards as our regular graduate training, and we have tried wherever possible to have the same individual offer the day and evening sections of a given course. Although this is not always possible, we have at least adhered to the policy of using regular members of the graduate faculty for evening teaching and of regarding such an assignment as part of the normal teaching load. In addition, we have made the same discovery that occurred in connection with the CCTV courses offered on campus; namely, that TV teaching imposes an additional load on faculty in terms of preparation time. We would also like to point out that the Electrical Engineering Evening Program was designed to be as identical as possible to the normal plan B program offered to day students, and we have, in fact, had students who have taken courses in both programs.

—ALLEN NUSSBAUM, *director*

Minnesota Geological Survey

The Minnesota Geological Survey has the responsibility for conducting investigations of the geology of Minnesota for the benefit of the citizens and industries of the State; its Director fills the position of State Geologist. The Survey is engaged in a three-point program of research and public service: (1) geologic mapping and research on the State's mineral resources, (2) serving as a clearinghouse for geologic and mineral resource information, and (3) public education.

Continuing the trend begun in 1961, the scope and breadth of Survey activities again were increased during the biennium. A modest increase in the funds available to the Survey was used to add to the permanent research staff, to initiate urgently needed projects, and to start new publication series.

The geologic mapping and research program included detailed geologic mapping in the Gabbro Lake, South Lake, Granite Falls-Montevideo, Minneapolis-St. Paul, Pine and Kanabec counties, and Babbitt-Dunka River areas; geophysical investigations in east-central Minnesota; and resource studies on clay and shale resources of the State and the iron ores of Fillmore County. In addition, basic research was carried out on the paleontology of Ordovician rocks, the stratigraphy of the Rove Formation, and the geology of the Paleozoic rocks of southeastern Minnesota.

The number of requests received from the public, State agencies, and industry concerning geologic and mineral resource data increased sharply during the biennium, reflecting the greater breadth of the Survey's activities.

Educational work was continued through correspondence, the distribution of pamphlets to students and the general public, and an exhibit at the State Fair.

An important function of the Survey is to publish the results of its research. In the past, the results of Survey work have been released primarily in the Bulletin series, which is published by the University Press. To provide a means for publishing brief reports and preliminary data of immediate economic or scientific interest, four new series were initiated during the year: (1) Geologic Map series, (2) Reports of Investigations, (3) Special Publication series, and (4) Information Circulars.

Although increases in budgets during the past two biennial periods have permitted the Survey to expand its regular staff and broaden the scope of its work, the level of operation still is far below that needed in the State. The accelerated demands on our natural resources, the need for new materials from which a more diversified economy can grow, and the problems consequent upon rapid urban growth all require that geologic research and mapping be stepped up.

—P. K. SIMS, *director*

UNIVERSITY COLLEGE

University College is essentially an administrative device to register students and grant degrees to those whose programs require them to cross college lines. For example, a student planning to become an interior decorator may need a number of courses in fine arts, home economics, and architecture and supporting courses in foreign language, anthropology, economics, sociology, and business administration. In applying for admission to this College, the student presents a statement of his objectives and the program he proposes to follow in attaining this objective. This program is then reviewed by appropriate faculty members, suggestions may be made for changes, and, when it is finally approved as the basis for a bachelor of arts or of science degree, the student is admitted to University College.

The applicants usually have completed two or more years of college work. In this College they must complete a heavier program of courses than is required in other colleges granting similar degrees—the Bachelor of Arts and the Bachelor of Science. To qualify for a degree, the student must have a C average in all courses and a C average in Upper Division courses calculated separately. During the biennium July 1, 1962, to June 30, 1964, thirty-five students were granted degrees.

The enrollment in this unit is never high since students must demonstrate a real need for a program not otherwise available and not contained within the scope of any other single college of the University. In spite of the small numbers enrolled (which is a measure of the flexibility currently in effect in the "regular" colleges), the functions of University College should be continued as one of the means by which the individual student with special program needs is given attention in a large university.

—F. M. BODDY, *chairman*,
University College Committee

UNIVERSITY PRESS

Major activity of the University Press during the biennium of 1962-64 was focused, as always, on the publication of new works. At the same time, continuing effort of various kinds was devoted to the previously published works. Some of the new publications may be singled out for special mention.

The publication of *Minnesota: A History of the State* by Theodore C. Blegen, dean emeritus of the Graduate School, filled a long-felt need for an authoritative, one-volume history of the state for general readers. Substantial sales of the book, both for popular use and as a textbook in various Minnesota colleges and universities, necessitated a second printing four months after publication.

A book based on a series of lectures given at the university under a grant from the Danforth Foundation, *Faith and History in the Old Testament* by R. A. F. MacKenzie, S.J., is believed to be the first theological work pub-

lished by a state university press. The book was widely praised by reviewers and was chosen by the Theology Book Club for distribution to its members. The Press plans additional publications based on other lectures given under the Danforth grant program by lecturers of other religious faiths.

The Two Faces of TASS by Theodore E. Kruglak, a study of the Soviet news agency, won three awards for its author—the Sigma Delta Chi Award for Research in Journalism, the George Polk Memorial Award, and the Frank Luther Mott Award of Kappa Tau Alpha.

A series of monographs resulting from a research program of the Committee on Cross-Cultural Education of the Social Science Research Council was brought to completion with the publication of the seventh and final volume, *Attitudes and Social Relations of Foreign Students in the United States* by Claire Selltiz, June R. Christ, Joan Havel, and Stuart W. Cook.

A new Minnesota Geologic Map Series which will provide quadrangle and other maps of much of the state was inaugurated by the Press and the Minnesota Geological Survey with the publication of the first map in March, 1964.

Eighteen new pamphlets in the continuing series of University of Minnesota Pamphlets on American Writers were published by the Press, bringing to 37 the number of titles in the series. Many translation editions of these pamphlets were arranged with foreign publishers.

The Press' income from the sale of its publications reached the highest 12-month figure in its history, with a total of \$276,549.04 for the year 1963-64.

In addition to publications under its own imprint, the Press arranged for 114 reprint or translation editions of its publications by other publishers in the United States or abroad. Also arranged was an unusual license agreement with General Mills, Inc., under which the firm reprinted some of the illustrations from *Bird Portraits in Color*, by Thomas S. Roberts, for mass distribution as premium cards. This, as well as the other reprint and translation rights agreements, provided for royalty payments to the Press.

Publications, listed chronologically with dates of issue, during the biennium were:

- The Two Faces of TASS*, by Theodore E. Kruglak. July 20, 1962
The Geology of the Metamorphosed Iron Formation, Eastern Mesabi District, Minnesota (Minnesota Geological Survey Bulletin No. 43) by James N. Gundersen and George M. Schwartz. August 10, 1962
The Quest for Eastern Christians by Francis M. Rodgers. October 11, 1962
 University of Minnesota Pamphlets on American Writers
 No. 20 *John Dos Passos* by Robert Gorham Davis. October 31, 1962
 No. 21 *Nathanael West* by Stanley Edgar Hyman. October 31, 1962
 No. 22 *Recent American Novelists* by Jack Ludwig. October 31, 1962
 No. 23 *Nathaniel Hawthorne* by Hyatt H. Waggoner. October 31, 1962
Ford Madox Ford's Novels by John A. Meixner. November 26, 1962
Senator Gerald P. Nye and American Foreign Relations by Wayne S. Cole. December 10, 1962
Arrivals and Departures by Charles Cullans. December 12, 1962
John Donne's Lyrics: The Eloquence of Action by Arnold Stein. December 23, 1962
A Concordance to "Finnegan's Wake" by Clive Hart. April 22, 1963
The Song Sparrows of the Mexican Plateau by Robert W. Dickerman (Minnesota Museum of Natural History Occasional Papers No. 9). April 23, 1963
 University of Minnesota Pamphlets on American Writers
 No. 24 *William Carlos Williams* by John Malcolm Brinnin. April 25, 1963
 No. 25 *Washington Irving* by Lewis Leary. April 25, 1963
 No. 26 *Ezra Pound* by William Van O'Connor. April 25, 1963
 No. 27 *Sinclair Lewis* by Mark Schorer. April 25, 1963
 No. 28 *Katherine Anne Porter* by Ray B. West, Jr. April 25, 1963
Sculpture with a Torch by John Rood. May 10, 1963
The Social Responsibility of the Press by J. Edward Gerald. May 6, 1963
Aging in Minnesota edited by Arnold M. Rose. May 13, 1963
Attitudes and Social Relations of Foreign Students in the United States by Claire Selltiz, June R. Christ, Joan Havel, and Stuart W. Cook. May 20, 1963
Faith and History in the Old Testament by R. A. F. MacKenzie, S.J. May 31, 1963
Kenneth Burke and the Drama of Human Relations by William H. Rueckert. June 24, 1963
Education and the Creative Potential by E. Paul Torrance (Modern School Practices Series No. 5). August 1, 1963

- The Use of Books and Libraries* by Raymond H. Shove, Blanche E. Moen, Frederick Wezeman, and Harold G. Russell (Tenth edition, revised). August 30, 1963
- Minnesota: A History of the State* by Theodore C. Blegen. September 10, 1963
- Minnesota's Rocks and Waters: A Geological Story* by George M. Schwartz and George A. Thiel (Second edition, revised). September 25, 1963
- Carta Marina: World Geography in Strassburg, 1525* by Hildegard B. Johnson. October 28, 1963
- University of Minnesota Pamphlets on American Writers
- No. 29 *James T. Farrell* by Edgar M. Branch. December 6, 1963
- No. 30 *Theodore Roethke* by Ralph J. Mills, Jr. December 6, 1963
- No. 31 *Reinhold Niebuhr* by Nathan A. Scott, Jr. December 6, 1963
- No. 32 *Little Magazines* by Reed Whittemore. December 6, 1963
- American Interests and Policies in the Middle East, 1900-1939* by John A. De Novo. November 29, 1963
- Paternalism in the Japanese Economy: Anthropological Studies of Oyabun-Kobun Patterns* by John W. Bennett and Iwao Ishino. December 16, 1963
- Seedtime of Reform: American Social Service and Social Action, 1918-1933* by Clarke A. Chambers. December 23, 1963
- Adolescent Personality and Behavior: MMPI Patterns of Normal, Delinquent, Dropout, and other Outcomes* by Starke R. Hathaway and Elio D. Monachesi. December 30, 1963
- The Geese Fly High* by Florence Page Jaques (Reissue of out-of-print book). February 25, 1964
- Image and Structure in Chamber Music* by Donald N. Ferguson. March 23, 1964
- Bedrock Geology of Duluth and Vicinity, St. Louis County, Minnesota* (Minnesota Geologic Map Series GM-1) by Richard B. Taylor. March 16, 1964
- Word Association Norms: Grade School through College* by David S. Palermo and James J. Jenkins. April 6, 1964
- Alms for Oblivion: Essays* by Edward Dahlberg. May 4, 1964
- University of Minnesota Pamphlets on American Writers
- No. 33 *Ellen Glasgow* by Louis Auchincloss. June 1, 1964
- No. 34 *Thornton Wilder* by Bernard Grebanier. June 1, 1964
- No. 35 *Henry Wadsworth Longfellow* by Edward L. Hirsh. June 1, 1964
- No. 36 *Willa Cather* by Dorothy Van Ghent. June 1, 1964
- No. 37 *Ambrose Bierce* by Robert Wiggins. June 1, 1964
- The University and Its Foreign Alumni: Maintaining Overseas Contacts* by Forrest G. Moore and Robert E. Forman (Minnesota Studies in Student Personnel Work No. 13). June 15, 1964
- Southeast Asia: Illusion and Reality in Politics and Economics* by Lennox A. Mills. June 22, 1964

—JOHN ERVIN, director

COLLEGE OF VETERINARY MEDICINE

The past biennium has seen a gradual development in the College of Veterinary Medicine. However, it has not been at the rate or to the extent hoped for by many of the faculty. The facilities appropriated by the 1961-63 Legislature are being constructed and will be put to use at the earliest possible date. The lack of funds in the past for the necessary faculty and the necessary supplies and expenses has had an adverse effect in retaining faculty members. However, it should be pointed out that the few new positions made available to the College of Veterinary Medicine have had a most beneficial effect; and, if development in these areas can be continued, along with the providing of facilities which have been needed for a long time, the University should be able to retain an outstanding faculty in Veterinary Medicine.

There is still a large demand for entrance to the College of Veterinary Medicine on the part of residents of Minnesota as well as of the economic area represented by North and South Dakota and Wisconsin. The entering freshman class was recently increased from 50 to 55, and as facilities develop we will be able to increase this class further. Since the College was started in 1947, the first class graduating in 1951, there have been (through June, 1964) 587 graduates. Three hundred and fifty-four of these are residents in Minnesota; an additional 154 are residents from Wisconsin, and North and South Dakota. The remainder of the graduates are scattered throughout the entire United States, most of these individuals in the military service either as a career or as required by Selective Service.

Undergraduate Veterinary Medical Education—There have been some revisions in the veterinary curriculum relative to the preveterinary program in that the animal science courses may be taken while the student is enrolled in the Veterinary College rather than in the preveterinary curriculum. This revision will permit students to acquire their preveterinary work at other institutions and branches of the University such as Duluth and Morris. The admission requirements of the College of Veterinary Medicine are comparable to those of the other veterinary medical colleges in the nation. The curriculum committee of the College is continually reviewing the course content and studying the curriculum leading to changes with additions and deletions to the course of study relative to the new horizons and some of the new programs in which Veterinary Medicine is now participating.

Graduate Education—The College of Veterinary Medicine as part of the Graduate School of the University of Minnesota continues to develop and expand its Graduate program as much as the facilities and faculty will permit. On an average during the last biennium there have been fifty Doctors of Veterinary Medicine doing graduate work in one of six categories with essentially all of these candidates proceeding to the Ph.D. degree. This graduate program is one of the largest in Veterinary Medicine. We have been able to secure training grant funds from outside agencies, primarily the National Institutes of Health, and have been able to attract graduates from other institutions to the University of Minnesota. The University of Minnesota, College of Veterinary Medicine, is one of only four colleges (of the 17 in the United States) which are physically located close to a medical center and medical school. Many of the graduate students in their pursuit of graduate work participate in courses in the basic science departments of the Medical School. In each of these cases a graduate school faculty member from the School of Medicine is a member of the student's degree committee. The demand for admission at Minnesota on the part of graduate veterinarians from other schools and other areas is continually increased, and we have had to turn down well qualified individuals because of the lack of facilities and faculty.

Research—The research program in the College of Veterinary Medicine has continued to expand and covers a wide field of activities in the biological sciences, represented by some fifty specific projects in addition to collaboration on other projects in the Institute of Agriculture and projects in the Medical School. Several of the projects are cooperative with the latter with faculty members collaborating.

The research is supported by funds from the Experiment Station with a marked increase of funds from the National Institutes of Health in addition to the support of projects by the Atomic Energy Commission, the Food and Drug Administration, and the U.S. Department of Agriculture. Studies on the immune process in animals have been carried out with the use of the germ-free technique. A study of lymphatic leukemia, primarily its occurrence, in Minnesota, and a study on porphyria in cattle or projects dealing with manifestations that have similar or the same manifestations in man are now being conducted. An extensive project has been underway supported by the U.S. Department of Agriculture dealing with the control of *Airsacculitis*, a disease condition of turkeys. This disease prompted inspectors in the federal processing plants to condemn up to 30 or 40% of the turkeys brought to the processing area. Research in the College of Veterinary Medicine is leading to better control of this disease.

An extensive project dealing with the humane slaughter of animals in the meat packing plants has recently been completed and has provided a scientific basis for dealing with certain regulations relative to the humane slaughter of animals in the meat packing industry. The continued study and improvement of the various tests for brucellosis infection in cattle and continued studies on the disease from the standpoint of better diagnostic techniques in problem animals will be of benefit to the livestock industry.

—W. T. S. THORP, dean

Divisions of Business Administration

BUSINESS OFFICE

The Business Office has the responsibility for many functions in the Business Administration structure of the University. Probably the most familiar of these are budget control, payroll, purchasing, and accounting. The General and Chemical Storehouses, the Bursar's Office, the Treasurer's Office, the Inventory Department, the Investment Department, and Trusts and Research Contracts Coordination are other important segments of the Business Office. One of the most important functions of the Business Office is to see that expenditures are made in accordance with Legislative action and with policies established by the Regents. From the broad policies established by the Regents, rules and regulations formulated by the University Administration must be interpreted in the expenditure of University funds, and this interpretation is a function of the Business Office. The Federal government, through its various agencies, has rules and regulations pertaining to the expenditure of Federal funds that many times are more restrictive than University regulations. These must be strictly adhered to in order to stand audit by the Federal agencies.

Below are described the research responsibilities and the endowments and investments activity as selected aspects of the Business Office activity during the 1962-64 biennium.

Research—Research carried on by the University of Minnesota contributes much to the state, to the faculty, and to the students. It is an essential part of a complete educational program. Its main value from an educational standpoint is to provide training for graduate students who will eventually become the instructional staff of the University. Since the end of World War II, research has been given increasing support from the federal government, the state government, business and foundations. In 1946-47 the University spent \$1,581,594.00 for organized and sponsored research compared to the 1963-64 fiscal year in which the University spent \$22,820,964.00. The accompanying schedule shows the growth by years of research expenditures. This schedule also shows the source of funds for this research. For the year 1963-64 the source of these funds and the percentage of the total were as follows:

Source of Funds	Amount	Per Cent of Total
The Federal Government	\$18,611,869.88	81.6
The State	1,571,869.26	6.9
Gifts	2,446,408.54	10.7
Income from Endowments	190,816.31	0.8
Total	\$22,820,963.99	100.0

A further explanation of what is included in each of these four categories is as follows:

From the Federal Government—This total includes direct Federal appropriations (Bankhead-Jones, Consolidated Hatch Funds, and others); income from Federal agencies for Defense Contracts Research (Departments of the Air Force, Army, Navy, Atomic Energy Commission, and others); grants from other Federal agencies (National Science Foundation, United States Public Health Service, Department of Agriculture, and others); and subcontracts for Federal prime contracts. A further breakdown of Federal funds for research is as follows:

Federal Appropriations	
Agricultural Research	\$ 927,187.52
Federal Agencies	17,684,682.36
Total	\$18,611,869.88

From State Funds—This figure includes special State appropriations for research such as medical research, soil survey, beneficiation of manganiferous ores, and agricultural research. It also includes grants from State agencies such as the Iron Range Resources and Rehabilitation Commission, and the Department of Conservation. A breakdown of these two main sources of State funds for research is as follows:

Special State Appropriations	\$ 1,511,328.57
State Agencies	60,540.69
Total	\$ 1,571,869.26

From Gifts—This total includes gifts and grants from business and industries, foundations, associations, individuals, and others. These funds are expendable for the specific research. Examples are as follows:

Business and Industries:

Pillsbury Company and National Dairy Council.

Foundations:

Louis W. and Maud Hill Family Foundation, Rockefeller Foundation, and Nutrition Foundation.

Associations:

Minnesota Heart Association and American Cancer Association.

A further breakdown of the source of these funds is as follows:

Business and Industry	\$ 579,609.95
Foundations and Associations	1,411,542.70
Individuals and Other	455,255.90
Total	\$ 2,446,408.54

Income from Endowment—This category includes for the most part income from various endowment funds such as the Malignant Disease Research Fund and the American Legion Memorial Heart Research Professorship. Some gifts are given to the credit of an endowment fund, and part of these gifts may be expendable and are not to be invested. If this is the case, these funds would show in the report under the heading of Endowments. In either case the funds under this category are expendable and are not to be invested. The total amount of funds expended for research from income from the endowment was \$190,816.31 in 1963-64.

Endowments and Investments—The endowment of the University of Minnesota contributes substantial amounts annually both to the general maintenance of the University and to numerous scholarships, professorships, and research projects which have been specified by many donors. As a result of action taken by the 1963 Legislature, the Regents of the University of Minnesota on July 1, 1963, took over the management of the largest single endowment, the Permanent University Fund. This fund, which totaled \$47,645,603.82 on June 30, 1964, was initiated by the land grant act of 1862 and accumulated primarily through the occupational tax and royalties on iron mined in the state. The income from this fund is used for the general operation and maintenance of the University. In addition to the Permanent University Fund the Board of Regents manage the investments on funds totaling \$21,306,103.70. An additional \$898,115.86 is held in trust for the University. The numerous gifts which constitute the endowment of the University have been unpredictable in nature and have varied widely in amount but have all contributed to many worthwhile projects and phases of a university endeavor.

Due to the large number of individual gifts the University has formed an investment pool for the management of these funds. This pool, called the group investment fund, is operated on a market value basis. New funds entering the group investment fund or added to old funds are assigned units of participation which are determined by dividing the amount received by the unit (market) value which is computed at the end of each quarter. The unit valuation at the inception of the group investment fund on June 30, 1954 was

\$10.00. The value of each of the 1,386,908 participating units as of June 30, 1964, was \$18.02. Benefits from the appreciation of the investment portfolio accrue to the participating funds. Although most funds are invested in perpetuity, if any fund is withdrawn in part or in total, a proportionate amount of appreciation is credited to the fund.

During the recent two-year period the larger endowment gifts included the following:

McMillan Endowment Fund—\$500,000. This bequest from the estate of Putnam D. McMillan is to be used for awards to faculty members of the College of Liberal Arts for travel and study, and for graduate fellowships.

Laurie T. M. Jacobson Memorial Scholarship Fund—\$25,000. This bequest stipulated that this fund will be used for the benefit of needy Norwegian students studying in the United States.

Dr. Charles Daniel Harrington Endowment—\$39,657.33. This bequest from the estate of Gertrude M. Harrington is to be used for maintenance expense of the Variety Club Heart Hospital.

Morton and Ethel Smith Support Fund of Medical History—\$93,428.12. This annuity fund will be used eventually for support in the broad parameters of medical history.

The Marshall and Margaret Alworth Endowment Fund—\$57,500.00. The eventual sale of the properties which are subject to a reserved life estate will be applied to the construction of a planetarium on the Duluth Campus.

Bell Fellowships—\$31,754.97. This gift is to be used for the study of North American wild fowls.

In addition, numerous other gifts were received for various University purposes. The income from the Permanent University Fund for the year ended June 30, 1964, amounted to \$1,420,806. The income from the other funds administered by the board approximated \$860,000. The following summary details the changes in the University of Minnesota portfolios during the last two years.

ENDOWMENT FUND SECURITIES

SUMMARY

JUNE 30, 1964

		Book Value June 30, 1963	Book Value June 30, 1964
Managed by the Board of Regents			
I. Permanent University Fund*			\$47,645,603.82
II. Group Investment Fund		\$18,313,152.40	\$19,596,087.26
III. Endowments Individually Invested		1,755,385.66	1,710,016.44
Total Funds Managed by Board of Regents		\$20,068,538.06	\$68,951,707.52
Held in Trust			
Permanent University Fund*		\$47,282,147.96	
Other Funds in Trust		125,615.86	\$ 898,115.86
Total Funds in Trust		\$47,407,763.82	\$ 898,115.86
Total Endowment Funds		\$67,476,301.88	\$69,849,823.38
Endowment Funds Managed by the Board of Regents (Book Value)			
I. Permanent University Fund	June 30, 1963		June 30, 1964
Bonds:	Amount	%	Amount
U. S. Government	\$44,038,000.00	93.1	\$38,590,430.21
State	2,700,818.70	5.7	
Public Utility			4,200,000.00
Industrial			1,200,000.00
Railroads, Including Equipment Trust Certificates			2,030,593.31
Finance			1,200,000.00
Bonds and Loans, Minnesota Municipalities	469,435.00	1.0	402,290.00
Total Bonds	47,208,253.70		47,623,313.52

* Transferred to the Board of Regents for Management beginning July 1, 1963.

BIENNIAL REPORT

	June 30, 1963 Amount	%	June 30, 1964 Amount	%
Unamortized Premium	38,822.38	.1	73,117.85	
Unamortized Discount			-107,900.83	
Net Book Value of Bonds	47,247,076.08		47,588,530.54	
Land Contracts	3,920.77		3,920.77	
Cash	31,151.11	.1	53,152.51	.1
Total Assets	\$47,282,147.96	100.0	\$47,645,603.82	100.0
II. Group Investment Fund				
Cash	\$ 44,643.75	.2	\$ 275,835.16	1.4
Bonds:				
U. S. Government and Agencies	1,603,103.13	8.8	3,849,101.10	19.6
Public Utility	2,170,421.80	11.9	2,351,945.00	12.0
Industrial	2,345,877.91	12.8	3,204,181.51	16.4
Railroads, Including Equipment Trust Certificates	1,153,867.71	6.3	1,116,643.59	5.7
Finance	2,049,679.17	11.2	2,067,623.61	10.5
Unamortized Premium	39,442.83	.2	43,090.00	.2
Mortgages	698,290.17	3.8	696,606.17	3.6
Preferred Stocks	680,119.66	3.7	519,786.93	2.7
Common Stocks	7,527,706.27	41.1	5,471,274.19	27.9
Total Assets	\$18,313,152.40	100.0	\$19,596,087.26	100.0
III. Endowments Individually Invested				
Cash	\$ 68,538.77	3.9	\$ 153,292.53	9.0
Bonds:				
U. S. Government and Agencies	349,555.19	19.9	377,793.09	22.1
Public Utility	99,987.50	5.7	99,987.50	5.8
Industrial	60,000.00	3.4	60,000.00	3.5
Railroads, Including Equipment Trust Certificates	139,859.05	8.0	114,859.05	6.7
Other	17,875.70	1.0	20,529.43	1.2
Unamortized Premium	875.00	.1	875.00	.1
Preferred Stock	21,096.86	1.2	21,096.86	1.2
Common Stock	604,601.59	34.4	341,811.98	20.0
Real Estate	392,996.00	22.4	519,771.00	30.4
Total Endowment Fund Managed by the Board of Regents	\$ 1,755,385.66	100.0	\$ 1,710,016.44	100.0
	\$20,068,538.06		\$68,951,707.52	

CASH GIFTS

SUMMARY OF GIFTS 1962-63

(Exclusive of Federal and State)

Expendable			
For Education and Research		\$2,524,868.20	
For Student Aid		1,138,370.46	
For Other Purposes		822,013.57	
Total Expendable			\$4,485,252.23
Capital			
Endowment			
For Education and Research		513,646.83	
For Student Aid		97,374.16	
Subject to Annuity and Residual Trust Agreement		-	
For Other Purposes		56,927.25	
Operating Temporarily as an Endowment		1,278.92	
Loan Funds		118,910.98	
Plant Funds		456,685.99	
Total Capital			1,244,824.13
Grand Total			\$5,730,076.36

DIVISIONS OF BUSINESS ADMINISTRATION

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SUMMARY OF GIFTS 1963-64

Expendable		
For Education and Research	\$2,574,414.06	
For Student Aid	1,190,742.84	
For Other Purposes	1,059,769.78	
Total Expendable		\$4,824,926.68
Capital		
Endowment		
For Education and Research	9,747.42	
For Student Aid	146,639.56	
Subject to Annuity and Residual Trust Agreement	893,428.12	
For Other Purposes	41,586.94	
Operating Temporarily as an Endowment	61,163.41	
Loan Funds	111,008.04	
Plant Funds	465,403.10	
Total Capital		1,728,976.69
Grand Total		\$6,553,903.37

College or School	No. of Projects	Expenditures	Percent of Total
College of Science, Literature, and the Arts	107	\$ 946,895.80	4.2
Institute of Technology	357	7,361,053.42	32.3
Institute of Agriculture	160	2,747,525.46	12.0
College of Medical Sciences	672	9,092,400.11	39.8
College of Veterinary Medicine	57	574,895.78	2.5
School of Dentistry	17	121,218.01	.5
Law School	1	4,737.86	.....
College of Pharmacy	8	53,863.73	.2
College of Education	33	335,476.19	1.5
Graduate School	61	1,161,412.24	5.1
School of Business Administration	10	136,320.61	.6
University of Minnesota, Duluth	11	61,593.45	.3
Other Units	16	223,571.33	1.0
	1,510	\$22,820,963.99	100.0

SUMMARY OF RESEARCH EXPENDITURES FROM ENDOWMENT INCOME
GIFTS, GRANTS, AND FROM SPECIAL APPROPRIATIONS FROM THE STATE AND FEDERAL GOVERNMENTS

1946-47 to 1963-64

Year	Total			Governmental Sources								Non-Governmental Sources							
	No.	Amount	% Inc. Over Prev. Year	State ¹				Federal ²				Gifts		Endowments					
				No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year	No.	Amount	% Inc. Over Prev. Year				
1963-64	1,510	\$22,820,963.99	16.1	973	\$20,183,739.14	19.8	31	\$ 1,571,869.26	11.2	942	\$18,611,869.88	20.5	508	\$ 2,446,408.54	7.1	29	\$ 190,816.31	8.7	
1962-63	1,404	19,661,370.61	13.6	915	16,853,271.69	19.0	30	1,413,749.81	4.1	885	15,439,521.88	20.6	462	2,632,608.01	5.4	27	175,490.91	51.1	
1961-62	1,289	17,304,403.30	13.6	800	14,160,646.61	16.3	29	1,357,443.09	4.2	772	12,803,203.52	16.7	460	2,781,710.71	1.7	29	362,045.98	13.0	
1960-61	1,216	15,230,176.63	10.7	709	12,173,406.87	12.1	26	1,303,289.22	7.2	683	10,870,117.65	12.7	475	2,736,419.68	6.1	32	320,350.08	1.2	
1959-60	1,139	13,762,411.84	18.1	659	10,860,273.21	23.0	26	1,215,406.19	0.8	633	9,644,867.02	26.5	453	2,578,060.38	2.9	27	324,078.25	2.4	
1958-59	995	11,652,151.91	13.1	530	8,830,376.35	15.4	29	1,205,163.57	9.8	501	7,625,212.78	16.3	439	2,505,343.69	5.5	26	316,431.87	15.5	
1957-58	929	10,303,713.84	23.1	465	7,654,218.77	22.5	30	1,097,510.26	19.1	435	6,556,708.51	23.1	443	2,375,477.08	28.6	21	274,017.99	0.5	
1956-57	837	8,369,377.76	12.9	411	6,249,255.14	12.6	21	921,622.33	2.2	390	5,327,632.81	14.6	401	1,847,471.60	14.8	25	272,651.02	7.6	
1955-56	748	7,411,114.04	3.5	357	5,549,000.49	0.1	21	902,076.59	5.3	336	4,646,923.90	1.1	363	1,608,640.78	18.4	28	253,472.77	1.6	
1954-55	721	7,161,320.64	6.2	339	5,553,604.68	6.9	21	856,276.63	9.4	318	4,697,328.05	6.5	356	1,358,218.30	3.6	26	249,497.66	4.6	
1953-54	640	6,742,752.94	8.4	310	5,192,970.05	4.3	26	782,668.69	3.1	284	4,410,301.36	4.5	308	1,311,335.51	23.6	22	238,447.38	33.9	
1952-53	556	6,217,782.70	14.9	280	4,978,656.62	16.9	26	759,426.26	4.4	254	4,219,230.36	19.5	256	1,061,103.63	7.8	20	178,022.45	5.8	
1951-52	549	5,411,886.92	33.3	257	4,259,556.27	38.5	27	727,744.96	32.6	230	3,531,811.31	39.8	274	984,127.92	21.5	18	168,202.73	3.3	
1950-51	463	4,058,614.66	20.5	202	3,074,612.59	27.5	18	549,006.33	0.4	184	2,525,606.26	35.9	246	810,077.45	0.7	15	173,924.62	19.1	
1949-50	426	3,367,130.06	8.1	165	2,405,242.21	6.8	21	546,825.40	18.8	144	1,858,416.81	3.8	246	815,810.40	7.6	15	146,077.45	38.1	
1948-49	386	3,114,927.24	18.8	133	2,251,224.44	27.5	18	460,436.53	4.1	115	1,790,787.91	35.5	243	757,937.73	0.2	10	105,765.07	6.5	
1947-48	336	2,622,534.71	65.8	108	1,763,837.46	92.2	19	442,101.12	86.3	89	1,321,736.34	94.3	219	759,399.26	33.8	9	99,297.99	2.8	
1946-47	294	1,581,594.22	40.7	74	917,510.17	29.2	12	237,323.20	8.2	62	680,186.97	50.6	213	567,522.42	80.2	7	96,561.63	2.3	
Total Expenditures 1946-47 to 1963-64					\$166,794,228.01			\$132,911,402.76			\$16,349,939.44			\$116,561,463.32			\$29,937,673.09		\$3,945,152.16

¹ State sources include State Appropriations and Contracts.

² Federal sources include Federal Appropriations, Contracts and Grants.

Notes: A. Figures do not include expenditures for non-research fellowships.

B. No research expenditures on the Support Fund have been included in these totals.

Source: Financial Reports

—C. T. JOHNSON,
Assistant Vice President

OFFICE OF CIVIL SERVICE PERSONNEL

The long-range departmental improvement program of the Office of Civil Service Personnel, planned and initiated during the second year of the last biennium, was carried forward in a number of important directions during the 1962-64 biennium:

1. The reorganization of the department, with its objective of providing better personnel services to University departments, was substantially completed. The department now consists of six divisions carrying on the following activities.

Recruiting Division. Recruits and screens applicants.

Personnel Services Division. Classifies positions and administers the salary plan. Interviews and certifies screened applicants. Helps employees and supervisors work out personnel problems. Works out solutions to grievance problems with union representatives.

Personnel Records Division. Maintains personnel files for all academic and civil service employees. Verifies personnel action documents for adherence to policies and rules. Provides information to University administrators and the public.

Training Division. Conducts central employee training programs for clerical employees in University business procedures, office practices, and English usage. Helps University departments develop specialized training programs for employees performing activities restricted to the services of individual departments. Writes and publishes the University Manuals of Business Procedure as well as specialized training manuals for departmental training programs. Operates the Regents' Scholarship Program.

Management Services Division. Conducts organizational, procedural, and work methods improvement studies for departments and for the Office of Civil Service Personnel. Provides services for study of office and work-place layout problems, records and files management, business equipment utilization, and forms design.

Office Services Division. Provides internal staff and clerical services for several of the other divisions of the department. Coordinates the utilization of clerical services of the entire department.

The departmental reorganization has made it possible to gradually give better service to University departments, because it concentrates the majority of contacts between operating departments and the Personnel Office in the hands of Personnel Services Representatives in the Personnel Services Division, each of whom is assigned responsibility for carrying all personnel services to one or more colleges or major administrative units of the University. Departments are learning that they can get help with all types of personnel problems either from or by working through the Personnel Services Representative assigned to them.

2. The system of screening applicants was substantially revised. A thorough study of the manner in which data were being gathered on applicants was completed, in which it was found that much interview time was being spent in gathering routine data. The application blank was completely revised to require more complete information from applicants in writing. The reference check form was redesigned to request more specific information. An applicant evaluation sheet was designed. Along with these changes in data-gathering forms, the system of preliminary screening analysis of applicants was revised.

These changes are making it possible to screen out a higher proportion of poorly qualified candidates before a great deal of interview time has been invested. The goals of final interviewing have been re-

defined so that emphasis is now concentrated on getting acquainted with the applicant as an individual personality and on filling in gaps in information on his background. The technical staff of the department participated in special seminars each of the two years of the biennium, conducted by a clinical psychologist, in which interviewing techniques and personality qualities were studied intensively.

While more work has to be done to improve such parts of the applicant screening process as testing, it is apparent at the end of the biennium that the new system is a great step forward. The Personnel Office is already beginning to notice a buildup in applicant numbers, particularly people without skills, just out of high school, or out of work because of automation moves in industry. This trend is expected to continue, and every possibility for improving the efficiency and effectiveness of evaluating applicants must be explored.

3. The central offices of the department have been relocated in Room 4, Morrill Hall, in a part of the space formerly occupied by the Plant Services Department. The space was remodeled, using movable partitions so that they can be shifted with the changing needs of the department. Even though the relocation resulted in a net loss of office space, its extremely efficient layout is providing a noticeably better operation. As the biennium ends, however, conditions in the new offices are already crowded, both because of the addition of new staff and because it has become necessary to move the office of the Management Services Division to the central location (its former space in Johnston Hall has been given to the Graduate School as part of a long-range expansion program).
4. A new employee service rating system was developed and installed in the first year of the biennium. The system meets legislative requirements for a true merit rating system and gives employees and supervisors a valuable new tool for better communication.

The system is substantially different from most service rating systems in use in government and industry today, in that it actually rates employees on each of the tasks, duties, and responsibilities he carries out in his work. The employee makes a briefly worded list of his tasks, changing this from year to year as his duties change. He may rate himself on his work if he wishes (another unusual feature in a service rating system) and then his supervisor rates him both on individual tasks and duties and on his service in general.

The task lists developed by employees on their service ratings are used by the Office of Civil Service Personnel as a basis for yearly review of the classification of each position, in addition to being of value to supervisors and administrators for review of the distribution of duties and responsibilities in their organizations. In the future the service rating system will be used to develop better methods of selecting new employees and of rewarding exceptional performers.

5. An extensive revision of the Civil Service Rules was adopted by the Board of Regents in 1963. The revision has made possible improved administration of the personnel policies of the University. The most important of the rule changes are reviewed in detail in a later section of this report.

Several major projects were started in the second year of the biennium that will be carried forward in the new biennium. The first is a systematic method of analyzing the difficulty of duties and responsibilities of positions for job classification purposes, utilizing a point-rating factor system. The second is an intensive study of the clerical testing program with the help of staff members of the Department of Psychology. The third is a plan to revise personnel action forms to bring about more efficiency in their processing and to provide the basis for feeding employee history data into a computer so that essential operating reports can be produced mechanically rather than by present hand compilation methods.

In other words, the biennium saw several major steps taken toward improvement in the operations of the Office of Civil Service Personnel, and it also saw groundwork being laid for further steps to be taken in the future.

Civil Service Rules—A major revision of the Civil Service Rules was completed by the Civil Service Committee and adopted by the Board of Regents on January 11, 1963. The need for rule changes was brought about by changes in the rules of the Minnesota State Civil Service, recommendations of employees and union representatives, supervisors, and department heads. Other changes were recommended by the Office of Civil Service Personnel.

The recommended changes were submitted to the Board of Regents by the Civil Service Committee after public hearings, meetings with employees and union representatives, and discussion with administrators. The major purposes of the changes were:

1. Clarification of ambiguities in wording or intent.
2. Improvement of administrative effect.
3. Execution of legislative directions.
4. Establishment of improved methods of personnel administration.
5. Adoption of standards and work rules conforming to contemporary personnel practices.

Following is a brief review of some of the rule changes which have a broad effect.

1. *Salary Merit Increases.* The rules were rewritten to enable the University to adopt a true merit salary increase system in accord with the intent of the Legislature.
2. *Types of Appointments.* A new system of appointment was adopted to better meet the needs of the University.
3. *Vacation and Sick Leave.* New methods of accumulation and an additional allowance of one day of vacation leave per year were adopted to conform with state and industrial standards.
4. *Employment of Relatives.* The rule was modified to make possible the employment of relatives by the University in the same department under certain conditions, with the approval of the Director of Civil Service Personnel.

Civil Service Committee—The following staff members served on the Civil Service Committee during the biennium:

1. Ray F. Archer, Director of Insurance and Retirement
2. Clarence L. Cole, Professor and Chairman, Dairy Husbandry
3. Richard C. Jordan, Professor and Chairman, Mechanical Engineering
4. Allan H. McCoid, Professor, Law School
5. Burtrum C. Schiele, Professor, Psychiatry
6. John G. Turnbull, Professor and Chairman, Economics

Professor Cole served as Chairman of the Committee during the biennium. The Director of Civil Service Personnel serves as Executive Secretary.

The Committee held 38 meetings during the biennium to consider 170 different agenda items. These items included 129 decisions on classes and pay ranges and 25 decisions on appeals of employees or departments. Major items considered by the Committee included the establishment of a management salary plan and an increase in the number of Regents' Scholarships to be awarded.

Without the help of the Committee, the administration of the Office of Civil Service Personnel would be much more difficult. The individual members who have given so much of their time to the business of the Committee are hereby given grateful acknowledgment for their service to the University.

Salary Plan—A recommendatory merit increase plan was instituted as of July 1, 1962. Under this plan only employees who merit increases for satisfactory work are eligible for salary step increases. The Legislature provided only 40% of the funds required to give all employees a one-step increase in the first year of the biennium. The balance of the necessary funds was obtained through reversions of money for vacant positions which were required to be held vacant for at least a month.

On July 1, 1963, funds were provided for a cost-of-living adjustment of 4% (one salary step) for all Civil Service employees for the second year of the biennium. In addition, a great many classes were adjusted an additional step or more to better meet the comparable salaries of other employers.

The July 1, 1964 merit increases were fully financed by the Legislature. However, no cost-of-living increase was provided for the biennium.

A comprehensive salary survey was completed at the end of the biennium in cooperation with the State Civil Service Department. The industrial and governmental questionnaires covered 172,000 workers representing 422 employers. The hospital questionnaires covered 26,000 workers in 184 hospitals. The survey results indicate that the University rates are competitive in the lower salaried levels but fall behind sharply in the middle and upper levels. The University and the State Civil Service will make salary recommendations to the 1965 legislature based on these survey findings.

The inability to adjust quickly to changes in competitive salaries in industry is still a major problem. We believe that a six or twelve month period between adjustments of pay ranges would be more desirable. We find ourselves lagging behind rapid changes in the going rate for many occupations. Some revision of the basic salary plan itself is also needed to improve the retention of employees, and plans are being made to propose changes in the basic structure of the pay plan during the coming biennium.

Position Classification—The position classification plan now includes 593 different classes of work covering nearly 9,500 full and part-time Civil Service positions, an increase of 5.5% over last biennium. The administration of this plan involved the following activities during the biennium:

1. New positions increased 45% over last biennium. Of the 1614 new positions established by departments, 1512 were classified as requested, 57 to a lower level, 18 to a higher level, and 16 into a different class at the same salary level as requested.
2. Requests for reclassification increased 8% over last biennium. A total of 486 requests for reclassification were submitted. Of this number, 340 were approved as requested. Three decisions were appealed to the Civil Service Committee by departments, and two appeals were granted.
3. Vacancies increased 24% over last biennium. A total of 3672 requests to fill vacant positions were submitted, of which 51 were reclassified to a lower level, 9 to a different class at the same pay level, and 21 to a higher class than requested. The total includes 967 student positions, an increase of about 50% over last biennium, caused by a change in policy on the filing of requisitions for these positions.
4. Seventy-three new classes were established, and seventeen obsolete classes were eliminated. Fifty-five positions were studied in connection with classification surveys. Of these, five were assigned to a higher class, five to a lower class, and two to a different class at the same pay level.

Employment—The employment situation during the biennium has stabilized somewhat. University salaries are competitive enough in some job areas to attract qualified applicants. Concurrently the University's employees are staying on the job longer. Our turnover rate has dropped from 2.27% monthly

to 1.65% monthly since last biennium. The resulting lower vacancy rate and our relative success in obtaining applicants has meant that we were able to refer an average of 1.8 applicants per vacancy this biennium as against only 1.3 applicants per vacancy in 1960-62.

Our advertising expenditures were \$33,000 during the 1962-64 biennium. This figure includes some funds from the research overhead budget which were used to recruit for research supported positions. Proportionately more money is being spent on advertising for hard-to-recruit jobs, such as technical and scientific personnel.

Personnel Records—The total activity of the personnel records area is a good indication of the overall activity and growth of the University.

The number of personnel documents processed during the past biennium increased from 52,905 to 55,759, a growth of about 5%. Student personnel actions totaled 15,384; civil service actions 18,656; and academic actions 21,719.

With a growing workload resulting in more files and file activity, the Personnel Records Division is facing a critical situation during the coming year. In order to operate efficiently in the extremely crowded existing space, new mechanized files will be purchased and the office space remodeled to provide better work area. Older files which must be retained for future reference have been removed from the basement files and transferred to a more remote location.

Every effort is being made to streamline the Personnel Records operation. Data processing equipment is being used to produce some documents which would otherwise be typed. A careful review is being made to determine the necessity for the clerical procedures of the Division. During the coming biennium it is hoped that some of these procedures can be eliminated or automated.

Testing—A total of 33,328 tests were administered during the biennium. This was an increase of 31% over the 1960-62 biennium and represents a continuing trend of the last five years, which have seen a tripling in testing activities. New applicants tested totaled 10,699, which means that almost two-thirds of the applicants coming to the University received some tests. Tests of ability and skill now provide the most efficient and fair method of eliminating grossly unqualified applicants. Much work is planned during the coming biennium to develop tests which can better help us measure the potential of job applicants for specific kinds of work.

Unemployment Compensation—During the two calendar years 1962 and 1963, the third two-year period of unemployment compensation coverage, 637 new claims were filed by terminated Civil Service employees. This figure is approximately the same as that of the 1960-61 period.

The University's total cost for unemployment compensation went up from \$188,659.47 for the previous biennium to \$198,102.84 for this biennium, because of higher salary levels and some build-up in the number of claims carrying over from year to year. It should be noted that the build-up is only five per cent for this period as opposed to the 100% growth of the 1960-61 calendar years. A total of 938 individual claims were paid during the biennium.

The University protested 249 claims during the two year period; and 130 of these were disqualified for three to seven weeks. Three additional claims were disqualified later because of refusal of claimants to accept jobs. Of the 13 disqualified claims that were appealed, nine were decided in favor of the University by the appeal tribunal.

Employee and Labor Relations—Employee and labor union relations have improved during this biennium. Many problems have been settled.

In December, 1962, one union local voted to disaffiliate from its international organization. In April, 1963, a representative of the international organization appeared in the Personnel Office and claimed that the disaffiliation was improper and should not be recognized. This dispute was eventually taken to court, and the action of the local was upheld.

An organizational battle between the independent local and the Building Service Employees International continued for more than a year. Competition between the two unions resulted in a series of grievances against the Uni-

versity. These grievances were presented by both parties to the dispute against the University as the party caught in the middle. This competition is still going on at the end of the biennium.

By the end of the biennium general agreement had been reached with the building trades and printing trades regarding their discontinuance of membership in SERA and payment into their private pension funds. Specific plans are in process to complete this arrangement.

Mr. David Y. Morris, Local 450, Independent Union, requested that he be given a meeting with the Labor Committee of the Board of Regents to discuss the make-up of the Civil Service Committee of the University and the method of appointing its members. This meeting was arranged on February 19, 1963. Mr. Morris made several recommendations to the Labor Committee, which were considered carefully, and the committee adopted the following resolution:

"The Labor Committee of the Board of Regents recommends to the Civil Service Committee that it consider the establishment of regular meetings to see whether they will create an atmosphere in which employees will feel that the Civil Service Committee is available at all times to hear employee appeals. The Labor Committee recommends that regular meetings be scheduled in such a way that they may be cancelled in advance by the Executive Secretary if there are no items for the agenda, but that if there are items pending and the Civil Service Committee cannot meet on the regularly scheduled day, a substitute meeting must be scheduled within one week of that day.

This resolution was approved by the Board of Regents on March 8, 1963.

Management Services—The Management Services Division has continued to give assistance to administrators and supervisors in evaluating and improving the organization, procedures, and business management of their departments. Major projects during the biennium have included:

1. *Organization Studies.* Studies were made and recommendations developed on organization in the Office of the President and the departments of Athletics and Physical Education.
2. *Central Services.* Assistance was given to the University Services Department in establishing a new Central Duplicating and Addressograph Unit. A major study of Federal and Campus mail services was initiated with the intention of developing needed central mailing services.
3. *Student Services.* Assistance was given to the Office of Admissions and Records in establishing organization, procedures, machines, and materials for the student identification card system. A study of the registration and course control methods in the College of Liberal Arts was completed. Recommendations for a centralized control system were not implemented.
4. *Budget and Accounting.* Studies of the Department of Radio and Television and the State Organization Service-World Affairs Center fiscal management were completed and recommendations accepted.
5. *Office Layout.* Office layout studies and recommendations were completed for the office of Civil Service Personnel, the Correspondence Study Department, the Municipal Reference Bureau, and the St. Paul Bulletin and Mimeograph Department.
6. *Forms Control.* A forms control system was set up for the Office of Civil Service Personnel. Forms design work was performed for many other departments.
7. *Data Processing.* Recommendations were developed and have been implemented to place graduate student course records on the 1410 computer. Several records of the Office of Civil Service Personnel have been transferred to automatic data processing including appointment notices, rate and position reports, and classification lists.

The demand for services from the Management Services Division shows that more of this type of assistance to University departments is needed.

Employee Training—The Training Division continued to expand and improve its employee development programs and other services to departments in the 1962-64 biennium.

Central Programs

Orientation—The "Get Acquainted with the University" meetings were continued on a semi-monthly basis as before. Orientation materials were sent to 31% more employees than during the previous biennium. Because of the increasing difficulty in reaching every new employee via an orientation meeting, an orientation manual is being rushed to completion. This will be given to every new employee and will take the place of the meetings, with greater coverage and less cost.

Business Procedures—This course for new secretaries and supervisors, now in its 13th year, had a 41% increase in enrollment this biennium. A total of 255 key employees in 11 groups attended this 12-session course. The *Manual of Business Procedures* was again revised annually, involving the Training Division in a continuing program of procedures development and improvement. Plans are being made for a total revision and restyling of the manual to improve its effectiveness. The Division is generally recognized as the information source on University business procedures.

Office Practices—This 12-session course for inexperienced office workers was presented to 27 groups, totaling 167 employees during the biennium. In addition, a number of private and special sessions were held at the request of departments.

English Refresher—This course was presented annually during this biennium, but will be offered semi-annually in the next biennium. It covers grammar, spelling, punctuation, and sentence structure.

Supervision—The emphasis in this area has shifted from group sessions to individual coaching. However, with the staff increasing in size, group conferences will again be resumed in order that more supervisors may be reached. The Supervisors Information Service consists of a circulating library of some 20 periodicals in the field of supervision and management. Its purpose is to stimulate management personnel by bringing them the newest concepts and improvement ideas.

Laboratory Animal Care—A newly developed basic course for inexperienced laboratory animal attendants was presented once to a group of 60 employees. An advanced course is now being organized for scientific personnel. Both of these courses help meet the demand for greater knowledge and skill in the field of laboratory animal care, which is rapidly expanding and becoming more professionalized.

Departmental Skills Programs

The Training Division encourages and assists departments in developing and administering training programs tailored to their specific needs. Services include work analysis, work simplification, establishing work standards, and producing work methods manuals. Soon to be published is another new manual entitled "Work Methods for Hospital Housekeeping."

Individual Self-Development Programs

Regents' Scholarship Program—This popular program was expanded during the biennium, with 200 day school and 110 evening school scholarships now available each year. In addition, many employees take courses on their own by paying tuition and making up lost time. Vocational counseling is provided for employees who request help in planning self improvement programs.

Trainee Programs—The Training Division works with the Employment Office and hiring departments in establishing trainee programs for new em-

ployees who lack some of the skills, experience, or education required for their jobs. The trainee idea is still quite new, but to date nearly 100 separate trainee programs have been established for some 150 trainees. In addition, two new four-year apprenticeship programs have been developed and registered with the State Industrial Commission.

Supplementary Services

The Training Division received numerous requests from departments for related services, particularly in the area of communication. These include design, illustration, editing and layout of brochures, pamphlets, questionnaires, and forms; advice in the graphic arts processes; preparation of visual training aids; and employee attitude survey questionnaires.

Student Employment Office—

	Applicants	Interviews	Vacancies	Placements	Earnings
1960-61	18,540	55,110	16,529	14,554	\$17,909,316
1962-64	21,197	62,852	19,286	16,439	\$20,295,910

The above totals show a substantial increase in the volume of business done by the Student Employment Office in the 1962-64 biennium as compared with that of the preceding two-year period.

The general student employment picture is one of steady growth from year to year, paced by a continually rising enrollment. During this biennium, when all previous enrollment records were broken, the amount of work turned out by this office was greater than ever before. Of the two-year total of 61,186 students on Minneapolis and St. Paul campuses (which is the area of the University served by this office—29,942 in 1962-63 and 31,244 in 1963-64), 21,197 registered for part-time employment. This is more than one-third of the student body. With this number of students, 62,852 interviews were held or student contacts made. Both of these figures (applicants and interviews) were 14% higher than in 1960-62.

The same trend was seen in the area of work availability and student placement. A total of 19,286 job opportunities became available during this period, with 16,439 of these jobs being filled. These vacancy and placement totals are respectively 17% and 13% higher than in the preceding biennium and represent the highest job levels ever attained. The number of individual students who secured work through this office was 11,396, which is about 18½% of total enrollment on Twin City campuses and 54% of those who applied for work.

Student earnings for the biennium have been computed at \$20,295,910. This figure includes the actual amount earned by students working directly for the University (including those on academic appointments), plus an estimated amount earned on off-campus jobs filled through this office in each of these years. An average student payroll at the University contained 4,506 students in 1962-63 and 4,485 in the last year of the biennium. In addition, another approximately 600 students were working in residence halls for credit applied to board and room.

In the Reserved Work (formerly called Work Scholarship) Program for high-ability Freshmen, 187 placements were made. This compares with 267 in the preceding biennium.

In August 1962 the Student Employment Office was moved to Wulling Hall. These larger quarters, additional and improved equipment, and an enlarged and excellent staff have enabled this office to keep up with the work and to serve faster and more effectively the increasing numbers of students who come to it for help.

—FRANK PIEFER, *director*

OFFICE OF THE FIELD AUDITOR

During the 1962-64 biennium the Office of the Field Auditor continued to examine and review the financial operations and office procedures of the

various departments of the University. Corrections and changes were made when necessary and instructions given to new personnel regarding established regulations for cash handling and record keeping.

This biennium saw the separation of the West Central School and Experiment Station from the University of Minnesota, Morris, and the establishment of additional bank accounts and financial records to make this separation complete. The old agricultural high school operation was phased out and with it the accounts receivable method of recording and reporting. This office assisted in both the phasing out and the establishment of new practices and procedures for internal control and reporting to Minneapolis.

The Office of the Field Auditor has continued its policy of annual visits to the experimental stations and agricultural schools in order to review and improve internal controls and records and to assist in the training of new personnel.

—JAMES L. DUFFY, *field auditor*

DEPARTMENT OF INSURANCE AND RETIREMENT

The following changes were made in programs administered by the Department of Insurance and Retirement.

Faculty Retirement Plan—

- a. Effective October 1, 1963 the plan was radically changed—so that future contributions by the University and the staff member are not determined by per cent of salary—with the result that final retirement allowances are directly dependent on salary and years of service. This change materially improved the University's competitive position in the retention and recruitment of capable staff.
- b. Effective September 16, 1963 full-time academic staff whose salaries are provided from sources other than support (Grants or Research Funds) were made eligible for the Faculty Retirement Plan.

Group Insurance—

Effective September 16, 1963 full-time academic staff whose salaries are provided from sources other than support (Grants or Research Funds) were covered under the \$12,000 Group Life Insurance and under the \$150 per month Group Income Disability Insurance.

—RAY F. ARCHER, *director*

PATENTS

Assignment of Patent Applications, 1962-63

Assignment of Application for Patent, Serial No. 126,899, Walter J. Runge, Light Shielding Material and Method.

Assignment of Application for Patent, Serial No. 202,674, Walter J. Runge, Light Shield Producing Material and Method.

Assignment of Application for Canadian Patent, Serial No. 565,618, Walter J. Runge, Light Shield Producing Material and Method.

Assignment of Application for Patent, Serial No. 260,669, Donald E. Anderson, Thin Film Dielectrics.

Assignment of Application for Patent, Serial No. 272,143, Fred F. Forbes, Line Voltage Compensating Timer.

Assignment of Application for Patent, Serial No. 266,584, Donald E. Anderson, Thin Film Superconducting Solenoids.

Assignment of Application for Patent, Serial No. 275,272, Donald E. Anderson, Thin Film Magnetic Energy Accumulator.

Assignment of Application for Patent, Serial No. 286,459, Strathmore R. B. Cooke et al, Ore Treating Process.

Assignment of Application for Patent, Serial No. 221,754, William E. Bradley, Implantable Bladder Stimulator.

Assignment of Application for Patent, Serial No. 312,223, Roy H. Mattson, Neuristor.

Patents Received, 1962-63

Original United States Patent No. 3,050,050, Dr. William G. Kubicek, Alternating Pressure Seat.

Original United States Patent No. 3,051,759, Dr. William E. Parham, Acetylenic Ethers.

Original Italian Patent No. 651,567, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Norwegian Patent No. 100,799, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original French Patent No. 1,296,127, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Pakistanian Patent No. 111,495, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original United States Patent No. 3,074,761, James J. Ryan, Safety Seat Belt.

Original Indian Patent No. 76,528, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Colombian Patent No. 11,757, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Assignment of Patent Applications, 1963-64

Assignment of Application for Patent, Serial No. 314,400, Roy H. Mattson, Remote Control Device.

Assignment of Application for Patent, Serial No. 323,780, Perry L. Blackshear, et al, Heat Sensing Probe and Process.

Assignment of Application for Patent, Serial No. 337,473, Sadek K. Hilal, Dual Differential Densitometer.

Assignment of Application for Patent, Serial No. 349,897, Roy H. Mattson, Neuristor and Process of Making the Same.

Patents Received, 1963-64

Original United States Patent No. 3,094,419, Leon Singer and Wallace D. Armstrong, Liquid Food Treating Process.

Original United States Patent No. 3,114,523, Helmut G. Heinrich, Speed Retardation Device.

Original Canadian Patent No. 676,163, Norman F. Schulz, Magnetic Roasting Process and Apparatus.

Original Canadian Patent No. 682,906, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

Original Danish Patent No. 97,965, Fred Smith and Edmund F. Graham, Preservation of Animal Material.

PLANT SERVICES DEPARTMENT

Land

During the biennium, additions were made to the Minneapolis Campus as follows:

In Block 6, Mower's Addition, bounded by 6th and 7th Streets S.E., and by 16th and 17th Avenues S.E., five parcels	28,782 sq. ft.
In Block 10, University Addition, bounded by 7th and 8th Streets S.E., and by 15th and 16th Avenues S.E., ten parcels	59,852 sq. ft.
In Block 11, University Addition, bounded by 6th and 7th Streets S.E., and by 15th and 16th Avenues S.E., five parcels	18,985 sq. ft.
In Block G, Tuttle's Addition, on the south side of 4th Street S.E. between 17th and 18th Avenues S.E., the southeasterly 11 ft. of the northeasterly 117 ft. of lot 5 and the northwesterly 44 ft. of the northeasterly 117 ft. of lot 4, one parcel	6,435 sq. ft.

In Block 17, St. Anthony City, on the East side of Walnut Street S.E. north of Washington Avenue S.E., the south 8.5 ft. of Lot 7, all of Lots 8 and 9, and that part of Lot 10 north of the south 35 ft., one parcel	28,298	sq. ft.
In Block 10, Baker's Addition to St. Anthony City, on the north side of Essex Street between Oak and Ontario Streets S.E., the east 50 ft. of Lots 8 and 9, one parcel	6,600	sq. ft.
In Barney's Subdivision of Block 30, St. Anthony City, on the east side of Union Street S.E. between Washington Avenue S.E. and Delaware Street S.E., Lot 10, one parcel	5,380	sq. ft.
In Block 48, St. Anthony City, bounded by Fulton, Oak and East River Road, on the south side of Fulton, the east 60 ft. of Lot 3, one parcel	9,900	sq. ft.

For the development of the West Bank, the following parcels were acquired:

In Block 3, Hancock and Rice's Addition, bounded by Washington Avenue and 2nd Street S., and by 15th and 19th Avenues S., the east half of Lot 4 and the west half of Lots 5 and 7, three parcels	12,568	sq. ft.
In Block 4, Hancock and Rice's Addition, on the south side of 2nd Street S. between 19th and 20th Avenues S., Lot 9, one parcel	6,284	sq. ft.
In Block 9, Hancock and Rice's Addition, bounded by Washington Avenue S., 2nd Street S., 21st Avenue S., and 22nd Avenue S., Lots 1 and 4 and part of Lot 3, one parcel	17,538	sq. ft.
In Block 165, Town of Minneapolis, bounded by 21st and 22nd Avenues S. and by Washington Avenue S. and 2½ Street S., part of Lots 2, 5, 6, 7, 10, 11 and 12, three parcels	34,526	sq. ft.
In Block 176, Town of Minneapolis, on the south side of 3rd Street S. between 20th and 21st Avenues S., Lots 2 and 3 part of Lots 1 and 5, five parcels	29,866	sq. ft.
In Block 177, Town of Minneapolis, east of 19th Avenue S. and north of 4th Street S., Lot 6 and part of Lots 5 and 7, three parcels	21,467	sq. ft.
In Block 180, Town of Minneapolis, bounded by 4th Street S., Riverside Avenue, 19th Avenue S., and 20th Avenue S., part of Lots 1, 2, 3, 4, 7 and 8, six parcels	21,623	sq. ft.
In Block 181, Town of Minneapolis, on the north side of 5th Street S. between 20th and 21st Avenues S., Lot 7, one parcel	10,890	sq. ft.
In Block 182, Town of Minneapolis, on the north side of 5th Street S. between 21st and 22nd Avenues S., the south 115 ft. of Lot 10, one parcel	7,590	sq. ft.
In Block 184, Town of Minneapolis, on the south side of 5th Street S. between 21st and 22nd Avenues S., part of Lots 1 and 2, one parcel	3,740	sq. ft.
In Block 185, Town of Minneapolis, on the south side of 5th Street S. between 20th and 21st Avenues S., the north 25.5 ft. of the east ½ of Lot 2, one parcel	841.5	sq. ft.
West Bank street and alley vacations: 20th and 21st Avenues S. from Washington Ave. S. to 3rd St. S.; 2½ Street S. from 19th Ave. S. to 127 ft. east of 21st Ave. S.; and, the 16 ft. alley from 20th to 21st Avenues S.	186,640	sq. ft.
Total Minneapolis Campus Acquisitions	518,255.5	sq. ft. or 11.9 acres

Deductions were made from the St. Paul Campus as follows:

Three parcels of the Inter-Campus carline right-of-way located in the north ½ of the northwest quarter of Section 20, T29N, R23W, 4th P.M.	2.6	acres
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Additions were made to the University of Minnesota, Duluth Campus, as follows:

Lots 1 through 9, Block 14, Motor Line Division, one parcel	25,820	sq. ft.
The southwest corner of Lot 11, Auditor's Plat No. 8 of Farrell's Addition, one small triangular parcel	257	sq. ft.
Vacation of platted streets and alleyways within the UMD Campus boundaries	105,103	sq. ft.
		or 2.41 acres

Additions were made to the Northwest School and Experiment Station, Crookston, as follows:

That part of the north ¼ of the southwest ¼ of Section 24 lying north of the Railroad right-of-way, except the westerly 693 ft. thereof; and

the south 1442 ft. of the east 1946 ft. of the northwest ¼ of Section 24, T150N, R47W, 5th P.M., Polk County 80.04 acres

A Gravel Pit south of the Railroad right-of-way in the northwest ¼ of the southeast ¼ of Section 24, T150N, R47W, 5th P.M., Polk County 4.5 acres

Additional land was purchased at the Cedar Creek Natural History Area as follows:

The SE ¼ of the NE ¼ of Section 22, T34N, R23W, Isanti County 34 acres
 The NE ¼ of the NE ¼, and the SE ¼ of the NE ¼ of Section 27, T34N, R23W, Anoka County 80 acres
 The NW ¼ of the SW ¼ of Section 27, T34N, R23W, Anoka County 40 acres
 The SE ¼ of the SE ¼ and the N ½ of the SW ¼ of the SE ¼ of Section 34, T34N, R23W, Anoka County 60 acres

Additional land was acquired at the University of Minnesota Excelsior Arboretum as follows:

The SE ¼ of the NE ¼ of Section 18, and part of the NE ¼ of the SE ¼ of Section 18, T116N, R23W, Carver County 68.25 acres
 Parts of the SW ¼ of Section 17, and part of the East ½ of the SE ¼ of Section 18, T116N, R23W, Carver County 100.5 acres

Additional land was acquired at the Cloquet Forest Research Center as follows:

The NW ¼ of the NW ¼ of Section 28, T49N, R17W, Carlton County 40 acres

Construction

Minneapolis Campus—Contracts were awarded for buildings as follows: A Science Classroom Building containing 37,128 sq. ft. of usable space is under construction at the east bridgehead. This building will provide a series of eight classrooms, seating between 120 and 250 students, and will be in use by fall quarter, 1964.

Total cost of this work \$1,310,476
 Source of funds State Appropriation

The Child Rehabilitation Center has been completed and occupied. Constructed of reinforced concrete with masonry exterior, this building has six floors, plus one housing mechanical equipment, and will provide 60,531 usable square feet of space.

Total cost of this work \$2,053,138.12
 Source of funds Hill-Burton Act and Hospital Funds

A fourth floor was added to the Electrical Engineering Building. This addition provided much-needed student laboratories and will allow the Electrical Engineering Department to consolidate their research facilities into more efficient grouping.

Total cost of this work \$486,520
 Source of funds State Appropriation,
 National Science Foundation Grant,
 and University Funds

A recently completed addition to Diehl Hall provided two additional levels (the fifth and sixth), containing 42,093 usable square feet. The fourth level—left unfinished in the original construction—was also completed. The fourth and fifth levels provide additional space for the Bio-Medical Library, while the sixth floor houses research laboratories of the Department of Pediatrics and the Department of Psychiatry and Neurology.

Total cost of this work \$1,538,125
 Source of funds National Institutes of Health Grant,
 Gifts, and Medical School Funds

A South Wing addition to the Physics Building had been constructed. Built of reinforced concrete with masonry exterior, this addition provides 15,645 usable square feet for research laboratories and offices.

Total cost of this work \$545,582
 Source of funds National Aeronautics and
 Space Administration Grant

A three-level addition to the ramp garage on Washington Avenue S.E. is under construction. This reinforced concrete addition will provide an additional 48,000 square feet of additional parking space.

Total cost of this work \$249,494
 Source of funds University Service Funds

Construction will begin soon on a three floor addition to the Variety Club Heart Hospital. Situated between the existing Heart Hospital and the recently completed Child Rehabilitation Center, this building will be of reinforced concrete with masonry exterior. This project will also include some remodeling of connecting portions of the original building. The space provided by this addition will house Heart Hospital examination facilities.

Total cost of this work \$1,109,560
 Source of funds Variety Club of the Northwest Pledge,
 U. S. Public Health Service Grant,
 University Hospitals Funds

Construction has begun on a North Wing Addition to the Physics Building which will provide another 32,600 usable square feet. One large capacity lecture room and several smaller classrooms will be included on the first floor. The basement and sub-basement areas will provide much needed shop space, storage, and research laboratories. The upper floors of the new structure will contain undergraduate laboratories, seminar rooms, and offices, as well as additional research laboratories. This addition is constructed of reinforced concrete with masonry exterior.

Total cost of this work \$1,061,629
 Source of funds National Science Foundation Grant,
 State Appropriation, and University Funds

An Ion Accelerator Unit is being built of heavy reinforced concrete near the Linac Laboratory. This building will house a new Van de Graff generator (atom smasher) replacing the older, obsolescent model presently housed in the Physics Building.

Total cost of this work \$653,073
 Source of funds National Science Foundation Grant,
 State Appropriation, and University Funds

Three floors of office space in the Business Administration Tower and one floor in the Social Sciences Tower which had been left unfinished during the original West Bank construction have been completed. Work necessary to put these areas, containing a total of 22,969 usable square feet, into use included plastering, finish flooring, erection of partitions, painting, and lighting and plumbing installation.

Total cost of this work \$200,000
 Source of funds State Appropriation

The sub-basement area of the Health Service left unfinished during the original construction has been completed and now houses the offices of the Environmental Health Department. All plumbing, heating, ventilating, air conditioning, and electrical work required to put this area into use has been completed.

Total cost of this work \$237,602
 Source of funds National Institutes of Health Grant,
 School of Public Health (Matching Money),
 University Funds, and Health Service Funds

Two new boilers are being installed in the heating plant to provide the additional operating and standby capacity required to adequately service the West Bank Towers and other new buildings. This project includes the removal of one of the older, obsolete boilers, and increase in the building proper, the installation of the two new boilers, and necessary auxiliary equipment.

Total cost of this work	\$2,050,000
Source of funds	State Appropriation

St. Paul Campus—Contracts were awarded for buildings as follows:

A one story addition to the Forest Products Building is under construction. Attached to the original building by a passageway, this laboratory building will contain wood processing research equipment. It is built with laminated timber structural frame and roof and has a masonry exterior.

Total cost of this work	\$289,253.16
Source of funds	State Appropriation, and University Funds

Duluth Campus—Contracts were awarded for buildings as follows:

The General Classroom-Home Economics building has been completed and occupied. This building contains two large auditoriums and is connected to the pedestrian tunnel system. This building is of reinforced concrete with masonry exterior and contains 42,400 usable square feet.

Total cost of this work	\$996,894
Source of funds	State Appropriation

Two additions to the Kirby Student Center are being constructed. One addition, paid for entirely by gifts, will house the Campus Club. The other includes expansion of kitchen facilities on the third floor and will provide multi-purpose rooms and commuters' lunchrooms on the fourth.

Total cost of this work	\$378,000
Source of funds	Gifts, and Service Improvement Reserve

A fourth floor addition to the Humanities Building has been completed. This addition provides classrooms, language laboratories, and office space for the Department of English. Construction was of reinforced concrete with masonry-and-stone exterior.

Total cost of this work	\$460,230
Source of funds	State Appropriation

Construction will soon begin on a Student Dormitory designed to house 202 students.

Total cost of this work	\$829,365
Source of funds	State Appropriation, Loan Funds, and Service Improvement Reserve

An addition to the Education Classroom Building is under construction. This underground structure between the existing Education Classroom Building and Tweed Gallery contains a 394 seat auditorium and provides expansion space for the Gallery. The upper portion of this reinforced concrete addition consists of a plaza and court area, and completes the pedestrian walkway system.

Total cost of this work	\$271,000
Source of funds	State Appropriation and Gift

Waseca—Contracts were awarded for buildings as follows:

A 100 bed dormitory wing is under construction at the Southern School of Agriculture. This building is of reinforced concrete and brick veneer construction.

Total cost of this work	\$400,000
Source of funds	State Appropriation

Rehabilitation

Minneapolis Campus—Contracts were awarded or work performed by the University as follows:

Phase III of the Jackson Hall rehabilitation has been completed. This rehabilitation included the installation of a new elevator, completion of the previously unfinished sub-basement area of the Jackson-Owre Addition, and remodeling of the Gross Anatomy and Elementary Teaching laboratories. New fixtures, floors, walls, and lighting in toilets were provided. Wooden floors were replaced by concrete with vinyl asbestos floor covering. New electrical feeder and heating systems were also installed, and the ventilating system rehabilitated.

Total cost of this work \$300,000
 Source of funds State Appropriation

A fourth elevator, integrated with the existing automatic control system, has been installed in Mayo Memorial Medical Center.

Total cost of this work \$117,000
 Source of funds State Appropriation

Rehabilitation and Remodeling of Station 22 in Elliot Hospital has been completed. This project provided 22 new beds for Station 22 and air conditioning for the cafeteria and dining rooms at the southwest corner of the second floor.

Total cost of this work \$283,206.02
 Source of funds State Appropriation,
 and Hospital Funds

St. Paul Campus—Contracts were awarded or work performed by the University as follows:

A new elevator is being installed in the Agronomy and Plant Pathology buildings.

Total cost of this work \$60,000
 Source of funds State Appropriation

A sanitary sewer and heating tunnel is presently under construction which will replace and supplement the present inadequate systems.

Total cost of this work \$253,000
 Source of funds State Appropriation,
 and University Funds

Major Improvements and Alterations

Minneapolis Campus—Norris Gym was improved through installation of new showers and toilet room, and rehabilitation of room 201.

Scott Hall Auditorium seats were replaced with tablet arm type for classroom purposes.

The roof and skylights on Mines Experiment Building were rehabilitated, new gutters and flashing installed, and a new slab laid in S-35.

Electrical Engineering Central offices were remodeled and new floors installed.

Morrill Hall is generally being remodeled to provide more adequate space for the Administration and the Business Office.

Space adjacent to the first and second stack levels in Fraser Hall Library was remodeled to provide four offices.

The obsolete stage switchboard in Northrop Auditorium was replaced with a new board, and wiring and air conditioning were installed in the auditorium and dressing room areas.

A medical student center was constructed with donated funds in the north-central basement area of the hospital.

An electronics lab was constructed in the basement of the Museum.

Refreshment facilities were provided in Mayo by the construction of a canteen on the first level.

The second floor of University Press was finished to provide space for Audio-Visual Extension offices and work area.

Rooms 708 and 710, Social Science Building West, were remodeled with donated funds to serve as the Guy Stanton Ford Memorial Library.

The area next to the bookstore in the Classroom Building West was finished to house the computer formerly in Vincent Hall.

The underground street lighting on Pillsbury Avenue from 14th to 17th was rehabilitated and improved.

A new transformer vault was installed in Morrill Hall.

As a result of negotiation for a new power contract with Northern States Power, the University purchased their on-campus primary distributing facilities. Sections of primary electric feeders have been installed to increase campus capacity, and additional planning and construction is proceeding. Additional feeders and panels were installed in Pillsbury Hall, Walter Library, Eustis Wing of the hospital; alternate primary electric service to V.F.W. Building; primary feeders to southeast campus area; and the primary and secondary service to Sanford Hall was improved.

Improvement of lighting in buildings continued with installation of modern lighting in some areas of Nicholson Hall, Walter Library, Coffman Union, Mechanical Engineering, Chemistry, and in most of the many areas that were remodeled or rehabilitated.

The tunnel lighting and wiring was rehabilitated.

A fire alarm system was installed in Chemistry.

The Federal Government finished an analysis of University space and posted fallout shelter signs on certain buildings and facilities.

Due to the large increase in bicycle traffic, many new bicycle racks have been installed.

New concrete and tile floors replaced the old wooden ones in Shevlin Hall, and the electrical conduit and wiring was rehabilitated.

The basement of Folwell Hall was remodeled and rehabilitated to house the Plant Services Department.

Grants from the National Science Foundation enabled the completion of alterations and remodeling for research labs in Pillsbury Hall.

New exits provided in the rehabilitation of Burton enabled the southwest and southeast stairwells to be made into office space.

The southeast portion of the first floor of Wesbrook Hall was remodeled into offices for the Student Loans and Scholarships group and room 101 into offices and labs for Psychology.

Repairs and alterations to the Armory offices, floors, and lighting have been completed.

When the remodeling of the fifth floor of Owre Hall is completed, new modern research labs will be provided.

Room M50 Masonic Memorial Hospital was completed for an electron microscopy room.

Unfinished space in Diehl Hall was made into an Ob-Gyn lab, and animal rooms for Pharmacology.

St. Paul Campus—Repairs and alterations are underway in Green Hall on the classrooms and offices.

The remodeling and rehabilitation has continued in the first floor and basement of North Hall to provide space for the Agricultural Experiment and Agricultural Extension groups.

New modern lighting and suspended ceilings were installed in the Chemistry buildings and rooms 190 and 490 were rehabilitated to prepare for classes.

General rehabilitation is underway in Coffey Hall to provide new offices for Agricultural Extension, new toilet rooms on third floor, and new floors and electrical work on second floor.

Several rooms in the Home Economics Building were remodeled into offices to house additional staff.

Lighting was improved through installation of fluorescent fixtures in some areas of the Home Economics and Agricultural Engineering Building.

An emergency lighting and power unit was installed for the heating plant. The underground street lighting was rehabilitated in the areas of Brewster Hall, Meredith Hall, Home Economics, Coffey Hall, Botany, and Shady Lane from Buford Avenue to Brewster Hall.

Morris Campus and Experiment Station—The installation of a 24 inch storm sewer system including catch basins, which is to connect to the existing system, is partially completed.

Remodeling and renovation of various buildings, including the gym, to handle college classes, is continuing. This also includes wiring and lighting.

The entire basement of Spooner Hall was remodeled to serve as a girls' residence.

New street lighting with underground cable was installed.

A complete inside and outside renovation of the heating plant chimney was completed.

Grand Rapids—The Main Building received new concrete and tile floors on the second and third levels and new lighting in the Auditorium gym.

Lamberton—The buildings were renovated for better use, and an office building was constructed.

Northeast Experiment Station—The exterior of several buildings was restuccoed, the Auditorium roof replaced, and a garage constructed.

Rosemount Agricultural Experiment Station—A three-bedroom herdsman's cottage has been completed at the beef farm.

South of the Administration Building is the location of a new foundation seed storage building.

The Agricultural Engineering area growth was continued with installation of special electric service and construction of a 100 foot livestock research building.

Crookston—The dairy barn and area was rehabilitated to provide modern dairy research facilities.

A beef feeding shed was provided by an addition to and remodeling of the old shed.

Storm sewers were installed in the street past the Animal Products Building.

The roof and gutters were replaced on Stevens Hall.

New service tunnels to Stevens Hall and Home Economics replaced the old tunnels.

A tie-rod installation on Home Economics was made to improve the structural strength.

The Physical Education Building received rehabilitation of the shower room, pool, and gym.

A new roof was applied on Robertson Hall.

Construction of a sheep research facility was completed.

Cedar Creek—Three towers 100, 74, and 60 feet were erected to receive signals from transmitters on animals and birds; and an addition to the lab was constructed for constant monitoring of the reception from the transmitters.

In order to study the effects of radiation on ducks, two large pens were constructed.

Cloquet—A sixteen-man student cabin was erected at the Forest Research Center. Improved street lighting with underground cable was installed.

Itasca—A laundry building and a laundry addition to the existing boys' toilet room were erected.

Waseca—An underground drainage system was installed in cooperation with the surrounding land owners to restore farm land to production.

Duluth—The unfinished space under the Business Office was completed to provide file storage space.

A storage room, weight room, running track, and archery space were gained by finishing the space under the Physical Education Building.

A new roof was applied to the Science Building.

Extensive planting of shrubs and trees took place to extend the landscape program.

Equipment was added to the steam services to facilitate utilizations of the turbine exhaust steam, and a tempered air supply was provided for the heating plant.

Parking facilities were improved through the construction of a crushed rock surfaced parking lot with a related service drive with curbing and drains.

—ROY V. LUND, *director*

DEPARTMENT OF POLICE

Offense Reports—During the first year of the biennium (1962-63), the Department received 3,190 offense reports. The second year (1963-64), 3,627 offense reports were received. This total of 6,817 offense reports represents an increase of 31.9% over the last biennium. Of these reported offenses, 66.9% were successfully closed.

Not all reports received involve University property or equipment. They do, however, have a relationship with the University because of the involvement of University staff and students. These reports also show that the value of property stolen during the biennium amounted to \$167,978.18, and the value recovered by this Department, \$80,500.32.

Polygraph Examinations—During the past biennium, the Department continued its program of serving other law enforcement agencies by conducting polygraph examinations for them. A total of 351 cases were handled for 116 different law enforcement agencies. These 351 cases represent 514 subjects examined. As a result of this service, many thousands of investigative man hours were saved for these referring agencies.

Security—The Department of Police is the University of Minnesota Security Office for classified government research contracts being performed by University staff members for the Department of Defense. In this connection, all personnel security questionnaires are processed by this office. At this time, there are 223 staff members with security clearances.

When it is necessary for staff members to visit other contractors or Department of Defense installations in connection with their classified work, our Department must process visit authorizations for them. During the past biennium, 87 of these visit requests were processed. We also are notified when other cleared persons visit our University to discuss classified projects; 86 such visits took place during the past two years.

The Department of Police is also responsible for the safeguarding of classified material stored on our campus. In this regard, we conduct security inspections of the departments storing classified material and must periodically change the combinations of the security safes.

Services—Several additional types of services are handled by the Department of Police.

1. Money pick-ups and deliveries, which represent the protection and transportation of thousands of dollars of University funds annually.
2. Transportation of sick and injured University of Minnesota staff members and students. During the past biennium, an ambulance was added to our Department. Since September of 1962, when we acquired the ambulance, through June 30, 1964, 181 individuals were transported to the University Hospitals by this ambulance. Many others less seriously injured were also taken to the Hospitals in our squad cars.
3. Operation of the Lost and Found Department.
4. Supervision and control of all University building keys.

5. Assisting strangers in finding various buildings and University personnel.
6. Fingerprinting and notarial services for the public.
7. Supervision of alcohol storage and distribution procedures.
8. Service on State, County, and Municipal boards for selection and promotion of police officers.
9. Maintenance of a uniformed patrol at the University of Minnesota Rosemount Facility, University of Minnesota at Duluth, and University of Minnesota at Morris.

Parking—The Department of Police is responsible for the operation and maintenance of the University Parking Facilities. As of June 30, 1964, we had 7,909 parking spaces; 5,472 of these were transient spaces and 2,437, contract spaces. This total represents an increase of 640 spaces over the last biennium.

We parked a total of 5,056,110 vehicles from July, 1962, through June, 1964. This figure shows an increase of 460,386 cars over the last biennium.

During the past biennium, plans were made and approval received to expand our parking facilities with the construction of a 2,000-car parking ramp south of Coffman Memorial Union.

The Department of Police continues its policy of using students to operate its parking facilities. In the past biennium, 454 students were employed, with a total payroll of \$347,838.15.

Public Relations—Members of the Department of Police continue to receive numerous requests for speaking engagements at international, national, civic, educational and church organizations. In this past biennium, 42 lectures were given.

—C. B. HANSCOM, *director*

UNIVERSITY SERVICES

University Services Administration is responsible for directing the operation of residence halls, food services, various auxiliary enterprises serving University departments, and other services for students and staff, listed in the table of *Comparative Earnings* contained in this report. These departments are staffed by approximately 400 full-time employees, 125 part-time non-student employees, and 930 part-time student employees. At the close of the 1962-64 biennium, University Services Administration requested of each of the department heads an evaluation of accomplishment of aims and objectives of the department service, to maintain attention on the continuing need for changes to increase efficiency, quality, and service, and encourage economical operation to meet the challenges of the general economy and the needs of the Campus community.

University Housing—Students from out of town are not required by the University to live in residence halls, but to the extent that space is available, they have the opportunity to supplement their educational experience and total preparedness for participation in a mature society through residence hall living. The objectives of residence halls directors are to provide completely adequate housing, comfortable but not luxurious, together with well-planned, attractive meals; to maintain the best possible study environment in a group living situation; to offer an excellent counseling program; to complement the education of the classroom through cultural, social, athletic, service, and organizational opportunities; and to conduct an efficient, economical operation to permit offer of these services at reasonable rates.

Maximum scholastic achievement of each resident is the primary aim of the residence halls counseling program. Counselors attempt to anticipate possible scholastic difficulty and institute measures toward improvement through consultation referral and advice to parents. As one aid to academic achievement, orientation meetings on how to study, review, and write finals,

conducted in a limited area, produced encouraging results in the relatively high scholastic average earned by residents.

Resulting from the difficulty in recruiting qualified counselors, a Residence Hall Counselor Trainee program was inaugurated, providing up to one year of inservice training under the guidance of a Residence Hall Counselor, for students selected for future Residence Hall Counselor appointments. In addition, a new program for student advisers was initiated at Sanford Hall. Selection is made from residents who make application in the spring, on the basis of leadership, dedication, high moral standards, maturity, and judgment. Following training sessions in the spring, the student advisers assist with Welcome Week, student government, and the counseling program, working toward becoming counselors in the senior year. Success of the plan would mean additional well-qualified counselors in the future.

Residence halls on the Minneapolis Campus have been filled to capacity during the biennium. To insure space for a maximum number of students who cannot conveniently commute from their homes, priorities have been established with time limits, first for present residents of halls, and second for non-metropolitan area applicants. After expiration of priority periods, assignments are made for metropolitan area applicants as space is available.

Because of the critical present and future shortage of housing for single women students on the Minneapolis Campus, the decision was made to add a tower type building to Sanford Hall, on land at the east side presently owned by the University. The addition will provide approximately 256 accommodations, small group lounges, and meeting rooms, and will include a new off-street main entrance to serve the entire Sanford Hall, eliminating the dangers of the University Avenue entrance. The hall reception area, information center, control desk, and offices will be contained in the addition. The Sanford location is considered ideal because of proximity to classroom facilities on the north half of the campus, sorority grouping, and shopping area. The basic structure of the existing building is sound, and with some repairs and modernization, anticipated use can be extended another fifty years. A rehabilitation program was initiated in the fall of 1962, and is planned for completion over five additional years, to include electrical, plumbing, heating, and construction alterations. Kitchen and dining facilities are modern and adequate in size, necessitating little change to accommodate satisfactorily the additional residents. The existing hall contains sixty-two single rooms, providing balance to the total program. Increased total capacity of 550 spaces will give a sound financial base for more efficiency and effectiveness in service.

In the planning for single student housing on the west side of the Mississippi River, three committees functioned, with participants from University Services and Office of the Dean of Students, to study specific problems of Social, Cultural, and Recreational Programming, Student Government and Resident Assignment, and Counseling and Academic Correlation, and to make recommendations for consideration of the official building committee on any project.

Residence hall rates were not changed for 1962-63, but were increased approximately eight dollars per quarter for 1963-64. The 1963-64 annual survey of Big Ten residence halls showed that rates at the University of Minnesota ranked fourth from the lowest of eleven schools for the most frequent single room rate for men, fourth from the lowest of ten schools for the most frequent single room rate for women, seventh from the lowest of twelve schools for the average of all rates for men, and sixth from the lowest of eleven schools for the average of all rates for women.

The need for additional married student housing is pressing, as evidenced by waiting lists at the end of May, 1964, of 194 resident families, 117 non-resident families, 123 resident couples, and 51 non-resident couples, totaling 485 applications on file. Waiting lists would be longer, but applicants become discouraged by the long interval of waiting. Approximately 65% of present tenants at Commonwealth Terrace are graduate students; approximately 62% at Como Avenue Housing and 88% at Grove East are in graduate work.

The Staff Housing Bureau continued to assist faculty and staff in locating suitable housing, or in renting or selling personal homes. Over one thousand listings were catalogued by the Bureau in a year, and used by individuals

and families. University Grove arrangements, with favorable loan features and security of investment return for faculty leaving the University were administered by the Bureau.

As increased housing became available to staff and faculty through construction of efficiency and one-bedroom apartments in the area of the campus, Kewanis Court apartments became less attractive to University personnel, who were given rental priority. The building had been given to the University with the stipulation that the net rental income, or income from sale of the property, be used to sustain a scholarship fund in the name of Josephine Merriam. Based upon a comprehensive survey of the building, the cost estimate for a major rehabilitation program was practically prohibitive, and ultimate approval for sale by the Regents resulted.

Recent construction in the area convenient to new staff members has been limited largely to efficiency and one-bedroom apartments, and there have been very few apartments providing facilities for families adjacent to the campus. Recruitment of qualified faculty, junior staff, and teaching assistants would undoubtedly be aided by the availability of appropriately planned University-owned rental apartments. University control of rentals could provide for flexibility of priorities and length of tenancy to permit availability as determined necessary for the academic recruitment program. As a partial answer to this need, the University has in the final planning stage a fifty-unit apartment building located within walking distance of the University on the site of the Pillsbury house, former residence of University presidents.

Campus rentals were expanded in two major areas through the biennium, resulting from purchases by the University for expansion of facilities in the area immediately west of the Mississippi River and in the Delta Field area. Eighty-two properties located in various areas of the Twin Cities and the state, determined to be income-producing in the period between receipt and disposition or ultimate destruction, were serviced centrally for rental and maintenance by this department.

Food Services—First improvements in the Coffman Union Cafeteria, to make it a more attractive and interesting place for students, staff, and campus guests to eat, were made with the installation of colorful lighting in modern decor at the entrance, counter, and exit areas, and the painting of all walls in a pleasing combination of colors. Aerial views of all campuses were ordered, to give interest to the waiting area. In the Fountain Grille more desirable new booth seating replaced old tables and chairs, and decorative plants were added. Extensive remodeling is under study for the loading dock area of the building, the ramp to the basement, rubbish facilities, bulky equipment storage, and walk-in refrigerated units. Replacement of stoves, ovens, and dishwasher is imminent for the efficient, economical servicing of one and three-quarter million customer meals annually. Cost has been the factor delaying the achievement of a more pleasing display of the vending machines which supply the popular commuters' lunch rooms.

Improved kitchen facilities and equipment at the Shevlin Cafeteria have benefited service to the nearly half a million customers handled yearly. The summer language houses, which have been operated by the Shevlin Cafeteria staff, in 1964 were serviced through contract between Summer Session and a sorority organization because of other scheduling of the Shevlin employees.

Consistent with the growth on the Minneapolis Campus, institute, workshop, and conference groups on the St. Paul Campus have been increasing in size and length of stay, and in the 1964 summer for the first time the Dining Center was open for meal service to these groups. Residence hall summer contracts could as a result provide for board and room, which is a desirable arrangement because of the extremely limited food facilities available to students on the St. Paul Campus. With further increase in the number of short course groups assured, it is fortunate that the Dining Center has not yet reached capacity in utilization of equipment. The staff dining room attracted an increasing number of groups for coffee hours, luncheons, and dinners, so that the number of individuals served has reached close to half a million in a year.

While vending machines facilitate the handling of customers in the St. Paul Student Center Snack Bar, seating capacity imposes limitations on the numbers which can be accommodated. An increase in commuting student population would necessitate additional space provision for bag lunch customers.

Auxiliary Enterprises Serving University Departments—The Materials Laboratory of Audio-Visual Education Service was utilized by faculty and staff for workshops, seminars, and individual consultation in the field of instructional technology. Equipment to implement specific needs was rented from the booking pool. The Campus Film Library purchased and maintained films used by several departments over an extended period of time, for convenience and economy to departments served. In answer to the critical need for proper storage and handling of motion picture film on an all-University basis, space in Johnston Hall was allocated and is presently being remodeled. The Xerox method of instant copy service was so much in demand by faculty, staff, and students that equipment has been installed on the west campus and is being installed at the Photographic Laboratory on the St. Paul Campus. New polaroid copy equipment at the Photographic Laboratory made faster delivery possible on rush orders for slides, prints, and negatives.

Because academic departments and administrative offices at the University spend several hundred thousand dollars annually for printing and duplicating, and because printing has become a very technical and specialized field with new processes constantly being developed, the position of Printing Services Coordinator was created to provide liaison between Printing Services and departments requiring reproduction of materials. The coordinator supplies information relative to available methods and comparative costs of printing and duplicating on the campus and in the Twin Cities area, to aid in selection of the most economical process for the degree of quality required. He assists with layout problems, paper selection, choice of type faces, and use of color, and helps prepare specifications for printing to be purchased from commercial plants. A booklet, *Copy, Typography, and Printing*, is available giving general information pertaining to typography and printing, and covering the topics of printing methods, preparing copy for artwork and paste-ups for offset, typographical considerations, printing papers, cost estimates, duplicating services, printing economies, copy preparation marks, and proofreader's marks.

In answer to the growing need for fast, economical duplicating of short-run jobs where quality is frequently unimportant, a location in Johnston Hall convenient for University personnel was established for multilith, mimeograph, and addressograph services. Direct image camera equipment is being added as the fastest and most economical method of making offset paper plates. Consideration is being given to publicizing addressograph lists to increase the possibility of exchange use of present lists, and to increase use of lists to provide better service to the University.

Work load of the Mimeograph and Bulletins department on the St. Paul Campus would require three more employees plus additional equipment, but unless more space becomes available the situation cannot be improved. The Bindery has an equally critical space problem: while the work load has more than doubled since 1935, work space has decreased because of Library needs.

Two significant changes in Milk and Cream Department methods took place in the biennium. Milk packaging was converted from wax to plastic coating, eliminating particularly the wax build-up in vending machines, which was a troublesome and costly problem. And metal pallets were designed and put into use for handling of the six-gallon dispenser cartons, reducing time and effort in handling since the cartons remain on the pallets from filler to the dispensing unit.

Operating effectiveness of the Laundry is checked each month, when the American Institute of Laundering sends two test bundles to be run twenty times in the regular washing cycle and then returned for evaluation. If whiteness falls below 96% or tensile strength more than 5%, the Laundry checks the formula for error. In the 1963-64 year almost five million pounds of soiled laundry was processed, of which approximately 80% was for the

Hospitals. Summer working conditions have been greatly improved by the addition of two large exhaust fans which remove hot air from the top of the building.

Other Auxiliary Enterprises—Administrative responsibility for the area of Stadium Stands and Vending Services was transferred to University Services following the death of Mr. Lyle Griggs, who had been the administrative head of Stadium Stands since the first staff appointment was made to this position in 1937, and had developed the department of Vending Services as an outgrowth of Stadium Stands with the advent of automatic food merchandising. A concession designed in the colorful atmosphere of a sidewalk cafe for limited meal service in the hockey section of Williams Arena, and the vending service designed as an attractive kiosk at the ninth hole of the University Golf Course were additions to the services offered.

Vending Services, now managing 133 merchandising machines and 164 coin-operated washers and dryers, and facing expansion as the need for decentralized concession facilities is answered, would benefit from consolidation of shop, storage, and office operations in a single location.

Other Services—The relocation in 1961 of Scientific Apparatus Services in Diehl Hall, closer to the main source of jobs, in a shop with more and better equipment, with space to provide for the addition of needed personnel, had immediate rather than long-range effect. Work load has shown a steady increase in volume and complexity of jobs, and it is increasingly more difficult to maintain short delivery schedules when desired. Research staff using the services of this department were surveyed in the past year to evaluate success or failure of the department in meeting needs of the University. Results indicated that in general departments were satisfied with the work, but they were less satisfied with the delivery schedule. In spite of improvements in equipment, and the development of a well rounded staff including highly skilled personnel, demand for services has exceeded capacity of present facilities, and peak loads must continue to be met with overtime work.

The Glassblowing Shop at the close of the biennium was allocated a relatively small additional area to alleviate temporarily the poor overcrowded working conditions until new permanent quarters are provided in the future. Initial steps were taken to divide the shop into a custom glassware section distinct from a production glassware section, for efficiency of operation. In cooperation with the Civil Service Training Division, an apprentice glassblower program was developed. Award of a certificate of completion of apprenticeship in February, 1964, marked the first time a formal registered program in scientific glassblowing was completed in this country. The four-year program, registered with the State of Minnesota Industrial Commission, covers oral and visual examination, and requires submission of a notebook of drawings and technical data, completion of required hours of training, and appearance before an examining board consisting of a member of the Civil Service Training Division, the Director of University Services, the Manager of the Glassblowing Shop, and a master glassblower from an outside source. Success of this program, with applicants of good potential, and a similar program for Production Glass Technicians, should provide a means of developing trained glassblowers. A new electronic glassblowing lathe has been an important aid to improved output.

The Campus Mail distribution system on the Minneapolis Campus was studied, resulting in the addition of a driver to haul special mail to the main post office and to remote delivery points, and in the revision of sorting methods and route timing. By the close of the biennium the plan for one delivery point in each building had progressed well. A questionnaire circulated to departments to evaluate service after improvements had been implemented indicated satisfaction. Educating University staff in the correct addressing of mail continues to be a problem.

As a temporary solution to the space problem in the Truck Service garage located in the back of the Holman Building, thirty-one stalls in a nearby parking lot have been reserved for University vehicles to permit expansion of repair shop facilities within the building. For the purpose of learning good points and weak points in our methods, we entered the Fleet

Owner National Maintenance Efficiency Awards contest for shop maintenance and office and record keeping. With a fleet totaling 227 vehicles at the close of the biennium, to be maintained to operate at maximum efficiency, streamlined methods in preventive maintenance, shop repairs, and office record procedures are essential.

Included in the University fleet are nineteen cars, eighteen station wagons, one panel truck, one carryall, and two scooters operated by the Transportation pool. In the last year 162 different departments were served, with 14 of the vehicles assigned on a full-time basis, and 207 refusals were recorded even though six vehicles were added to the pool. Expansion of the pool has been delayed because of the problem of garaging, notwithstanding the advantages in this system of providing vehicles where needed without investment from department budgets.

Development of the west campus necessitated extension of the Inter-Campus Bus service to provide an East Bank-West Bank shuttle service for transportation of faculty members in the performance of their University work, and bus service for transportation of students during winter quarter only. Two eight-passenger carryalls supplemented by taxis fill the faculty needs. With increasing student enrollments, passenger loads from St. Paul to Minneapolis campuses in the fourth week in each quarter totaled 12,051 for the week in fall quarter, 14,554 for the week in winter quarter, and 8,731 in the spring.

—C. L. CARLSON, *director*

Comparative Earnings, University Services Departments

	1962-63	1963-64
Centennial Hall	\$ 658,806.28	\$ 671,892.74
Pioneer Hall	441,905.29	527,160.16
Territorial Hall	439,335.01	451,057.92
Frontier Hall	446,745.13	493,533.10
Comstock Hall	502,025.17	556,001.90
Sanford Hall	245,216.80	262,271.75
Bailey Hall	87,733.86	129,669.46
St. Paul Campus Dormitories	50,443.49	102,964.57
Como Avenue and Grove East Housing Project	157,269.10	105,520.19
Commonwealth Terrace	326,625.23	333,091.04
Thatcher Hall	33,650.57	33,510.47
Kewanis Court	21,595.14	10,519.96
University Grove Rentals	6,765.54	6,777.18
Center for Continuation Study Hall	45,600.36	44,856.70
Coffman Union Food Service	633,251.16	652,236.84
Shevlin Cafeteria	101,255.08	95,198.30
St. Paul Dining Center	360,664.48	359,978.11
St. Paul Student Center Snack Bar	90,621.67	94,172.95
Milk and Cream	286,694.68	289,786.29
Food Stores	1,068,893.64	1,112,329.41
Stadium Stands	128,620.07	128,765.28
Vending Services	281,211.45	366,796.07
Audio-Visual Education Service	239,307.11	268,081.14
Photographic Laboratory	56,423.48	71,153.81
Printing Department	525,015.23	740,397.74
Bindery	72,717.67	76,616.65
Mimeograph Department	83,536.02	85,218.59
Mimeograph and Bulletins (St. Paul Campus)	93,448.90	100,865.13
Laundry	372,039.50	394,686.29
Post Office and Campus Mail	999.96	999.96
Transportation	41,784.66	61,043.35
Lockers	9,047.08	5,559.74
Como Clinic Building	550.00	600.00
Barber and Beauty Shops	5,958.39	6,499.03
Pioneer and Centennial Recreation Dens	3,153.99	3,452.88
Pioneer and Centennial Laundry Dens	3,497.96	4,977.84
Truck Service	49,347.47	58,099.10
Comstock Hall Candy Counter	9,213.51	6,908.20
Sanford Hall Candy Counter	1,477.11	1,335.52
St. Paul Campus Residence Halls Candy Counters	6,942.69	8,257.62
Inter-Campus Bus	29,959.86	31,416.99
Scientific Apparatus Services	61,802.52	63,907.95
Glassblowing Shop	32,402.45	31,566.77
Truck Service	49,347.47	58,099.10
	\$8,114,054.76	\$8,849,734.69

Divisions of Educational Relationships and Development

OFFICE OF THE ASSISTANT TO THE VICE PRESIDENT FOR EDUCATIONAL RELATIONSHIPS

This office was established in July, 1963. At that time, the position of executive secretary of the Senate Committee on Institutional Relationships was combined with it. This report will, therefore, include the activities of the Committee on Institutional Relationships with the other departmental activities.

One of the major functions of the Committee on Institutional Relationships is to serve as the accrediting agency for the University in evaluating and approving the private secondary schools and non-regionally accredited colleges of Minnesota. Each year the private secondary schools submit, to this office, annual reports on their program and teacher qualifications, for review by the committee. Accredited schools are visited every five years by a committee composed of University, public and private high school, and other college representatives for a two-day re-evaluation to extend the accreditation of the school for the following five years. During the two year period, 1962-64, nineteen accredited private high schools were revisited and approved as part of this program. Three new high schools were also visited and recommended for initial accreditation by committees. A total of 135 individuals was involved in these accreditation visits, as committee members.

Two public junior colleges and two private colleges were also visited by accreditation committees during the two-year period. Fergus Falls Junior College was extended full-accreditation and Willmar Community College, which was just initiating its program, was extended provisional accreditation by the University. Concordia College, St. Paul, received full accreditation of its upper division program as it moved to four-year status, and Dr. Martin Luther College, New Ulm, was extended provisional accreditation by the University. In addition, the committee continued its consultation services with other colleges, seeking to improve their accredited status in preparation for future evaluation.

The committee also participated in the report (made jointly with the Senate Committee on Education) on the policy on accreditation of college-level courses offered by television. The committee met monthly to discuss and recommend policy on a variety of matters in a continuing program to improve institutional relationships of the University with other colleges, with high schools, and among the several units of the University.

Other major activities of this office included:

1. Publication of the *High School-College Relations Newsletter* for the Minnesota Committee on High School-College Relations. This newsletter is issued quarterly and sent to all colleges, school superintendents, high school principals, and counselors in Minnesota, and to a select mailing list of out-of-state institutions and offices.

2. Two television series, "Going to College," presented over KTCA-TV in the fall and spring of the 1963-64 academic year. Each thirteen-week series presented staff members from University departments explaining procedures and activities of the University of Minnesota. The shows were aimed at high school students, school counselors, and parents. The purpose was to supply information that would better enable students to make decisions related to college attendance and planning for academic programs.

3. The assistant to the vice president served as secretary to the Northwest School Program Planning Committee in coordinating its activities as it studied and made recommendations relating to the establishment of a college-level technical institute at the Northwest School of Agriculture at Crookston.

4. Vice President Wenberg is currently serving as secretary-treasurer of the Association of Minnesota Colleges, and our office provides the clerical work related to this position.

5. As assistant to Vice President Wenberg, the Assistant represents his office on a number of all-University committees and other activities related to institutional and educational relationships.

—RICHARD E. WHITE,
Assistant to the Vice President
for Educational Relationships

OFFICE OF THE ASSISTANT TO THE VICE PRESIDENT FOR DEVELOPMENT

As a follow-up to the administrative change (approved by the Board of Regents in March, 1962) specifying the title and duties of the Vice President for Educational Relationships and Development, an Assistant to the Vice President for Development was first appointed in July, 1963. In addition to serving as an assistant to Vice President Stanley J. Wenberg, this officer directs the following portions of the University's development activities:

1. He serves as a direct outreach of the Vice President's office in coordinating development activities on the University campuses. He provides for the coordination of information in such areas as the Departments of University Relations, Alumni Relations, and both the Minnesota Medical Foundation and the University of Minnesota Foundation.

2. His office provides a central source of information on Foundation and Corporate giving practices. This information is available to University staff seeking support for non-research projects of special interest. This Foundation file will contain information on personal and corporate Foundations throughout the United States.

3. The office serves as the secretariat for the University of Minnesota Coordinating Council, a group of key University staff and faculty members most actively concerned with the University's development program.

President Wilson is chairman of the Council and Vice President Wenberg is Vice Chairman. The Council reviews non-research projects involving gifts of \$500 or more from outside the University. It brings together the best development advice available within the University, and it serves as an intermediary for University project proposers and their potential benefactors. It works closely to coordinate the work of all projects in order to obtain the maximum benefit for the University and its supporters.

4. The office is developing comprehensive gift records for benefactors of the University. It is also working toward a University-wide system for coordinating the acknowledgment and processing of gifts, taking into account the public relations and development aspects of giving.

5. The office is the principal "servicing arm" of the University of Minnesota Foundation and its Board of Trustees. The Foundation is a non-profit, tax-exempt corporation, whose basic purpose is to provide funds to meet certain of the needs of the University for which tax funds are not available. It is intended "to develop more effectively the University's relationships with major benefactors."

This office, as the Foundation's secretariat on campus, provides staffing for its meetings, aids in maintaining its communications and records, and provides current information about individual prospective donors.

—FRED C. MCCORMICK,
Assistant to the Vice President
for Development

OFFICE OF ADMISSIONS AND RECORDS

The primary work of the Office of Admissions and Records is, of course, to serve the student body and the various instructional units by keeping current and safeguarding student records and supervising the admission, registration, and certification of students. During the past biennium, however, the data-providing services of this office were very greatly expanded in response to the fast increasing enrollments. But more and more, the office has responded to the needs of the University's central administration and special faculty groups for data, background studies, needs analyses, and the like (as examples of faculty groups, the Central Planning Committee and the Committee on Intercollegiate Athletics).

A new computer facility of the data processing center, serving jointly the Office of Admissions and Records and the Office of the Vice President for Business Administration, became operative winter quarter, 1963. This facility, located at the basement level in the space between Morrill Hall and the Physics Building, has enabled the two departments to change from a simple punched card operation to a system incorporating a small computer and magnetic tape information storage. With its "memory" features and its far greater speed, the new system offers important new possibilities for the work of Admissions and Records and the University units it serves.

Accomplishments have thus far included machine processing of routine admissions, preparation of summary data sheets for each freshman for use by college counselors, and generation of class profiles according to such criteria as high school rank and test scores. End-of-second-week attendance statistics, important because of their timeliness, were machine-prepared for the first time and were expanded to include reports previously not available until the end of the year. Current grade point averages were machine-computed and listed on end-of-quarter grade reports to aid colleges in reviewing the progress of their individual students.

In the first year of the biennium, computer facilities were used to provide data for scheduling the moves of certain units to the west bank of the Minneapolis Campus. The computer identified the optimal moves by programming student schedules from the previous academic year. As a result, the maximum number of students were able to take all their work on the west bank and many more were able to take all but one course there.

The Admissions and Records Office also initiated proposals to effect better class and space scheduling and, at the same time, keep decisions on academic matters within the instructional units rather than permit choices among course and hour scheduling to be influenced unduly by the availability of facilities. The recommendation called for uniformly good use of morning and afternoon hours and for permissive use of the 7:30 a.m. class hour (zero hour) on the east bank, Minneapolis Campus, and it provided a time schedule for 75-minute classes, which are being utilized on an experimental basis.

By student request, a student identification card system was established and became operative on all four campuses during the winter and spring quarters of 1964. The card, embossed with student name and file number for ready imprint on various forms, provides rapid service and positive student identification, and includes a photograph and space for signature and other identifying information. It became immediately useful in registration and fee assessment, reducing errors by about 90 per cent on documents that must be headed with student name and file number. Other services using the card were the health services, student unions, athletic ticket offices, University bookstores, University police, language laboratories, libraries, student employment, the Dean of Students Office, and certain academic departments where identification of those entitled to student services is important. It is expected that many other uses for it will be developed.

Much work was done by the Board of Admissions, which became the University Senate Committee on Admissions Policy. Staff members from the Office of Admissions and Records attended its frequent and regular meetings, many of which dealt with the problems of University growth and with improvements of student selection. The Board of Review on Residence Status, another important committee serving this office, handled the usual great volume of individual cases and did an analysis of the practices and regulations

used in determining residency. The Advisory Committee on Space Allocation and Use encountered much increased need for locating units, surveying the uses made of rooms, scheduling intensive use of building areas, improving classrooms for maximum utilization, and serving central administration. The Committee on Relationships with Prospective Students published brochures in full cooperation with teaching departments concerned; these are made available to high school students and their counselors and describe programs of study offered at the University. Another important publication, done under the aegis of the Admissions Office and that committee, was the *Informational Handbook for University Representatives*, which was completely revised and updated; as its name implies, this handbook is used by University representatives who provide information about the University to high schools during College Years' programs and other school visits. The office also initiated a change in the cover design of University bulletins to improve their appearance, provide greater flexibility in layout, and still maintain general similarity. To further aid the prospective collegian, several members of the office staff took part in programs on admission to college broadcasted over the educational TV channel.

During recent years increasing numbers of high school students have applied for admission to University immediately after the first term of their senior year. These students received early indication of their admission status and have therefore been able to make college plans early in the year. Earlier application procedures have also assisted high schools and the University in considering individual student problems and have partially alleviated extreme work peaks in this office. During 1962-63, about 3500 freshman applications were reviewed before April 30, while in 1963-64 the comparable number was 6500.

Tuition increases were necessitated for fall quarter, 1962, and again for fall quarter, 1963, because of the University's increasing support needs.

During the summer of 1963, the Office of Admissions and Records began a series of major moves. The dean's office was moved from the second floor to the ground level of Morrill Hall, and the following spring (1964) the Admissions Office moved from the first floor to the ground level of that building.

This office continued to provide the Selective Service system with information and certification of student attendance. The group of students reported increased from about 5,000 in 1961-62 to 8,000 in 1962-63, and to 15,000 in 1963-64.

Korean veterans attending the University under the benefits of Chapter 33 of Title 38, U.S. Code (formerly Public Law 550), declined from an annual average of about 770 in the 1960-62 biennium to 238 at the end of 1962-63 and 97 at the end of 1963-64. Korean G.I. educational benefits will expire on January 31, 1965. This will mark the end of one of the greatest experiments in American education. After that time, the veterans receiving benefits at the University will be those who qualify under the 815 disabled veterans bill. Disabled veterans in training under Public Law 815 numbered 31 in 1962-63 and 44 in 1963-64. Students attending under Chapter 35, Title 38, formerly Public Law 634 (i.e., children of veterans who died of injury or disease resulting from military service), totaled 169 in 1962-63 and 152 in 1963-64. This group will exist for some time to come.

During the past year, the Office of Admissions and Records also worked with campus military units to publicize to present and future students the opportunities and problems they will face because of their obligation to Selective Service. As an aid to students, the department published various materials, and staff members participated in several television and other formal programs designed to explain the student's Selective Service responsibilities and to indicate the various military programs open to him. This office is now in the process of working out, with the chairman of the ROTC Committee of the Senate and Vice President William G. Shepherd's office, programs that will effect greater publication and wider coverage of information on students' military obligations; these include a new mailing of literature and dissemination of information through the regular orientation programs for new students.

Annual Enrollment—Record-breaking totals of persons again received instruction from the University during the biennium. The number of different

individuals instructed by the University at all educational levels was 98,811 in 1962-63 and 106,894 in 1963-64 (Table V, p. 331, *Biennial Report 1962-64*), compared with 90,725 (Table V, p. 214, *Biennial Report 1960-62*) in the last year of the preceding biennium. Regular day college enrollment for the academic year and summer session climbed sharply to a total of 44,588 in 1962-63 and 47,236 in 1963-64 (Table I, p. 321, *B. R. 1962-64*). This compared with 41,614 (Table I, p. 206, *B. R. 1960-62*) in the last year of the preceding biennium. Other collegiate-level enrollments, including extension and correspondence courses and instruction at the Center for Continuation Study, also recorded increases during the period—the gain for collegiate-level instruction being 11,704 ($87,266 = 1963-64$ Coll. Stud. total minus the 1963-64 Sub-Coll. Stud. total, Table V, p. 330, *B. R. 1962-64*; Minus 75,522 = 1961-62 Coll. Stud. total minus the 1961-62 Sub-Coll. Stud. total, Table V, p. 214, *B. R. 1960-62*) to a new mark of 87,226 in 1963-64. Enrollments below the college grade also rose 4,465 (the difference between 1963-64 Sub-Coll. total, Table V, p. 330, *B. R. 1962-64*; and 1961-62 Sub-Coll. total, Table V, p. 214, *B. R. 1960-62*) during the two year period.

Enrollment in Day Colleges—Day-college enrollment during the regular academic year, exclusive of summer sessions, rose to 38,739 in 1962-63 and 40,529 in 1963-64 (Table I, p. 320, *B. R. 1962-64*), after 35,563 (Table I, p. 206, *B. R. 1960-62*) in the last year of the preceding biennium. (Fall term attendance was 33,616 in 1962 and 35,112 in 1963.) In 1963-64, the Duluth campus accounted for 3,674 students (Table I, p. 320, *B. R. 1962-64*), and the Morris campus in its fourth year, added another class to bring its enrollment to 755 (Table I, p. 320, *B. R. 1962-64*). In Minneapolis-St. Paul, major enrollment gains during the biennium came in the College of Liberal Arts, the Institute of Technology, and the Graduate School, with lesser but significant gains in most of the other colleges.

Men and Women—The percentage of men students to women in the day-college enrollment during the regular academic year was 68.3 per cent in the first year and 68.5 per cent in the second year. At the close of the previous biennium the proportion of men in the total student body had been 68.5 per cent (Table I, p. 321, *B. R. 1962-64*).

Out-of-State Enrollment—The out-of-state student segment in the total student body was 13.0 per cent during 1962-63 and 12.5 per cent in 1963-64. The Graduate School continued to have the largest proportion of students from outside Minnesota, but the percentage dipped from 47 to 46 per cent. The number of foreign students enrolled totaled 1,279 in 1962-63 and 1,323 in 1963-64—about 3 per cent of the student body, as in the preceding biennium (Tables XA XB, pp. 339, 340, *B. R. 1962-64*).

New Matriculants—There were 12,307 new students in 1962-63 and 12,498 in the second year (Tables VIIIA, VIIIB, IXA, IXB, pp. 336, 337, 338, *B. R. 1962-64*) against 12,165 (Tables VIIIB, IXB, pp. 220, 222, *B. R. 1960-62*) in the final year of the previous biennium. The 1963-64 total included 8,180 freshmen and 4,318 students with advanced standing; the 1962-63 totals were 8,071 and 4,236 respectively. In 1961-62 there had been 8,342 freshmen and 3,823 advanced standing students (Tables VIIIB, IXB, pp. 220, 222, *B. R. 1960-62*).

Source of New Matriculants—As in the preceding biennium, near 95 per cent of the entering freshmen were from Minnesota. In 1963-64, 19 per cent of Minnesota freshmen came from Minneapolis public schools, 8 per cent from St. Paul, 59 per cent from other Minnesota public schools, and 14 per cent from the state's private schools (Table VIIIB, p. 336, *B. R. 1962-64*).

The proportion of undergraduate advanced standing students entering from Minnesota colleges was 62 per cent in 1962-63 and 64 per cent in 1963-64. This reflected the increased enrollments in other Minnesota colleges and the tendency of increasing numbers of students to start their college work elsewhere and subsequently transfer to the University for advanced studies (Tables IXA, IXB, pp. 337, 338, *B. R. 1962-64*).

Degrees Conferred—The number of degrees conferred by the University increased during the biennium. The University granted 5,955 degrees in 1962-

63 (Table VIIA, p. 334, B. R. 1962-64) compared with 5,671 in 1961-62 (Table VIIA, p. 218, B. R. 1960-62). In 1963-64, the total grew to 6,634 (Table VIIA, p. 334, B. R. 1962-64).

Summer Session—Enrollment in the summer totaled 13,300 different persons in 1962 (Table I, p. 321, B. R. 1962-64), an increase from the 12,938 in 1961 (Table I, p. 206, B. R. 1960-62). The summer enrollment again increased to 14,572 (Table I, p. 321, B. R. 1962-64) in the second year of the latest biennium. Second term enrollment was about 73 per cent of the first in 1962 and 68 per cent in 1963, reflecting a relatively slower rise in second term attendance.

Extension Division—Evening class enrollment (Table IVA, General Extension, p. 326, B. R. 1962-64) climbed to 18,179 in 1962-63 and 21,693 in 1963-64. The mark in 1961-62 had been 16,051 (Table IVA, p. 211, B. R. 1960-62). Extension short course enrollment was 2,437 in the first year of the biennium and 2,430 in the second (Table IVA, p. 327, B. R. 1962-64). Attendance at the Center for Continuation Study (Table IVB, p. 330, B. R. 1962-64) was 10,307 in 1962-63 and 10,179 in the second year—272 (the difference between the 10,451 total, Table IVB, p. 214, B. R. 1960-62; and the 1963-64 total, Table IVB, p. 330, B. R. 1962-64)—short of the total of the last year of the previous biennium. Correspondence study reached a total enrollment of 10,080 in 1962-63 and 10,644 in 1963-64 (Table IVA, p. 327, B. R. 1962-64).

Sub-Collegiate Enrollment—Sub-collegiate programs rose to an enrollment of 17,739 in 1962-63 and 19,668 in the second year. For detailed figures see Table III, p. 324, B. R. 1962-64.

Tables—Various other enrollment data and trends are indicated in the accompanying tables. Special attention is directed to Table V, which summarizes the number of different students instructed at every level each year.

—ROBERT EDWARD SUMMERS, dean

TABLE I. COLLEGIATE ENROLLMENT BY COLLEGES AND SCHOOLS, 1962-1964

College or School	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Agriculture, Forestry, and Home Economics								
Senior	217	143	360	280	172	452	92	
Junior	240	153	393	216	126	342		51
Sophomore	395	264	659	476	265	741	82	
Freshman	445	221	666	408	170	576		90
Adult Special	90	50	140	85	55	140		
Total	1387	831	2,218	1,463	788	2,251	33	
Business Administration								
Senior	360	6	366	364	13	377	11	
Junior	354	19	373	450	10	460	87	
Adult Special	61	7	68	81	8	89	21	
Total	775	32	807	895	31	926	119	
Veterinary Medicine								
Senior	47		47	31	2	33		14
Junior	30	2	32	40	3	43	11	
Sophomore	45	3	48	43	2	45		3
Freshman	44	1	45	50	2	52	7	
Adult Special	1		1	3		3	2	
Total	167	6	173	167	9	176	3	
Dentistry								
Senior	85		85	85		85		
Junior	93		93	96		96	3	
Sophomore	103		103	94		94		9
Freshman	100	1	101	109	1	110	9	
Adult Special	2		2					2
Total	383	1	384	384	1	385	1	

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

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TABLE I. (Continued)

College or School	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Dental Hygiene								
2nd year		34	34		35	35	1	
1st year		52	52		52	52		
Adult Special		1	1					1
Total		87	87		87	87		
Education								
Senior	402	818	1,220	409	964	1,373	153	
Junior	273	745	1,018	303	730	1,033	15	
Sophomore	99	337	436	96	312	408		28
Freshman	82	90	172	86	83	169		3
Adult Special	230	274	504	257	281	538	34	
Total	1,086	2,264	3,350	1,151	2,370	3,521	171	
Institute of Technology								
5th year	441	2	443	401		401		42
4th year	479	3	482	535	6	541	59	
3rd year	558	8	566	546	10	556		10
2nd year	876	10	886	984	11	995	109	
1st year	833	13	846	841	19	860	14	
Adult Special	128	5	133	123	6	129		4
Total	3,315	41	3,356	3,430	52	3,482	126	
Graduate School								
Minneapolis, St. Paul, and Duluth	5,152	1,213	6,365	5,439	1,332	6,771	406	
Mayo	663	24	687	636	29	665		22
Total	5,815	1,237	7,052	6,075	1,361	7,436	384	
Law School								
Senior	106	2	108	119	4	123	15	
Junior	2		2					2
Sophomore	115	3	118	139	7	146	28	
Freshman	187	11	198	246	4	250	52	
Adult Special	3		3	8		8	5	
Total	413	16	429	512	15	527	98	
Medical School								
Senior	122	8	130	132	4	136	6	
Junior	134	2	136	147	10	157	21	
Sophomore	131	11	142	129	10	139		3
Freshman	141	11	152	141	14	155	3	
Adult Special		2	2	6	3	9	7	
Total	528	34	562	555	41	596	34	
Medical Technology								
Senior	3	39	42	2	35	37		5
Junior	2	43	45	2	61	63	18	
Adult Special		14	14	3	18	21	7	
Total	5	96	101	7	114	121	20	
Nursing								
3rd year	2	68	70	1	72	73	3	
2nd year		65	65		84	84	19	
1st year		156	156	2	141	143		13
Adult Special	2	9	11	1	12	13	2	
Total	4	298	302	4	309	313	11	
Pharmacy								
Senior	31	7	38	46	3	49	11	
Junior	50	4	54	71	4	75	21	
Sophomore	82	5	87	69	13	82		5
Freshman	41	11	52	21	8	29		23
Adult Special	9		9	6		6		3
Total	213	27	240	213	28	241	1	

BIENNIAL REPORT

TABLE I. (Continued)

College or School	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Liberal Arts								
Senior	1,117	583	1,700	1,231	679	1,910	210	.....
Junior	1,394	804	2,198	1,554	836	2,390	192	.....
Sophomore	2,181	1,586	3,767	2,259	1,601	3,860	93	.....
Freshman	2,185	1,976	4,161	2,259	2,035	4,294	133	.....
Adult Special	259	219	478	281	246	527	49	.....
Total	7,136	5,168	12,304	7,584	5,397	12,981	677	.....
University College								
Senior	6	17	23	17	26	43	20	.....
Junior	8	14	22	2	11	13	.....	9
Sophomore	1	.....	1	2	.....	2	1	.....
Adult Special	1	2	3	2	1	3	.....	.....
Total	16	33	49	23	38	61	12	.....
General College								
Second year	1,271	359	1,630	1,203	315	1,518	.....	112
First year	1,610	556	2,166	1,851	561	2,412	246	.....
Adult Special	164	35	199	182	42	224	25	.....
Total	3,045	950	3,995	3,236	918	4,154	159	.....
Public Health								
Senior	86	53	139	102	46	148	9	.....
Junior	2	18	20	1	.....	1	.....	19
Sophomore .....	.....	1	1	.....	.....	.....	.....	1
Adult Special	36	53	89	41	29	70	.....	19
Total	124	125	249	144	75	219	.....	30
Physical Therapy								
Senior	3	17	20	3	18	21	1	.....
Junior	3	22	25	2	22	24	.....	1
Adult Special	1	.....	1	.....	.....	.....	.....	1
Total	7	39	46	5	40	45	.....	1
Occupational Therapy								
Senior .....	.....	19	19	1	22	23	4	.....
Junior	2	24	26	1	27	28	2	.....
Adult Special .....	.....	1	1	.....	1	1	.....	.....
Total	2	44	46	2	50	52	6	.....
Duluth								
Senior	316	151	467	313	142	455	.....	12
Junior	369	225	594	630	265	895	301	.....
Sophomore	721	300	1,021	647	348	995	.....	26
Freshman	807	508	1,315	695	439	1,134	.....	181
Adult Special	118	87	205	115	80	195	.....	10
Total	2,331	1,271	3,602	2,400	1,274	3,674	72	.....
Morris								
Senior .....	.....	.....	.....	59	18	77	77	.....
Junior	79	24	103	81	67	148	45	.....
Sophomore	128	65	193	131	63	194	1	.....
Freshman	177	77	254	202	103	305	51	.....
Adult Special	18	6	24	17	14	31	7	.....
Total	402	172	574	490	265	755	181	.....
Total Academic								
Year	27,154	12,772	39,926	28,740	13,263	42,003	2,077	.....
Less Dups.	709	478	1,187	957	517	1,474	287	.....
Net Total Academic Year	26,445	12,294	38,739	27,783	12,746	40,529	1,790	.....

TABLE I. (Continued)

College or School	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Summer Session								
First Term	6,119	4,413	10,532	6,785	4,951	11,736	1,204	.....
Second Term	4,903	2,761	7,664	5,105	2,871	7,976	312	.....
Total	11,022	7,174	18,196	11,890	7,822	19,712	1,516	.....
Less Dups.	3,573	1,968	5,541	3,761	1,992	5,753	212	.....
Net Total Summer Session	7,449	5,206	12,655	8,129	5,830	13,959	1,304	.....
Mayo Graduates	625	20	645	590	23	613	.....	32
Net Total Summer Session (including Mayo)	8,074	5,226	13,300	8,719	5,853	14,572	1,272	.....
Grand Total	34,519	17,520	52,039	36,502	18,599	55,101	3,062	.....
Less Dups.	5,097	2,354	7,451	5,281	2,584	7,865	414	.....
Net Grand Total Collegiate	29,422	15,166	44,588	31,221	16,015	47,236	2,648	.....

TABLE IIA

COLLEGIATE ENROLLMENT BY QUARTERS

1962-63

College or School	First Term Summer Session 1962			Second Term Summer Session 1962			Fall 1962			Winter 1963			Spring 1963			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Ag., For., & H.E.	146	222	368	136	102	238	1,152	754	1,906	1,159	704	1,863	950	655	1,605	1,475	941	2,416
Business Administration	223	16	239	167	7	174	546	20	566	568	22	590	577	27	604	849	39	888
Veterinary Medicine	22		22	24		24	169	8	177	162	7	169	159	6	165	158	6	164
Dentistry	69		69	37		37	386		386	371		371	364		364	376	1	377
Dental Hygiene		12	12		4	4	1	84	85		79	79		71	71			87
Education	568	1,190	1,758	394	724	1,118	792	1,727	2,519	779	1,685	2,464	784	1,676	2,460	1,564	3,123	4,687
Institute of Technology	613	16	629	477	10	487	3,157	41	3,198	2,898	35	2,933	2,625	34	2,659	3,561	56	3,617
Graduate:																		
Mpls., St.P., and Duluth	1,904	674	2,578	1,612	427	2,039	4,421	975	5,396	4,288	948	5,236	4,182	940	5,122	6,112	1,669	7,781
Mayo	625	20	645	625	20	645	637	21	658	608	22	630	580	23	603	705	27	732
Law School	118	5	123	124	5	129	416	16	432	398	14	412	384	14	398	392	15	407
Medicine	236	9	245	232	9	241	508	31	539	501	31	532	521	32	553	533	34	567
Medical Technology	2	14	16		17	17	7	84	91	6	77	83	5	71	76	7	93	100
Nursing and Affiliates		178	178		174	174	4	286	290	3	272	275	3	223	226	4	371	375
Pharmacy	23	3	26	28	5	33	203	25	228	202	26	228	196	25	221	207	24	231
Science, Literature, Arts	1,482	1,360	2,842	1,087	837	1,924	6,290	4,710	11,000	5,837	4,278	10,115	5,322	3,933	9,255	8,064	6,145	14,209
University	3	15	18	2	5	7	15	26	41	16	28	44	15	28	43	16	35	51
General College	196	74	270	152	33	185	2,384	778	3,162	2,356	718	3,074	2,057	679	2,736	3,151	982	4,133
Public Health	62	94	156	84	90	174	120	100	220	120	99	219	115	75	190	153	205	358
Physical Therapy		1	1		2	2	8	40	48	7	36	43	6	36	42	5	38	43
Occupational Therapy		18	18		17	17	2	44	46	2	44	46	2	42	44	1	38	39
Duluth Campus	434	468	902	347	293	640	2,038	1,148	3,186	1,997	1,035	3,032	1,903	1,007	2,910	2,562	1,654	4,216
Morris Campus	18	44	62				363	166	529	355	151	506	321	148	469	407	203	610
Totals	6,744	4,433	11,177	5,528	2,781	8,309	23,619	11,084	34,703	22,633	10,311	32,944	21,071	9,745	30,816	30,302	15,786	46,088
Less Duplicates	75	82	157	42	26	68	145	112	257	168	119	287	181	122	303	880	620	1,500
NET TOTALS	6,669	4,351	11,020	5,486	2,755	8,241	23,474	10,972	34,446	22,465	10,192	32,657	20,890	9,623	30,513	29,422	15,166	44,588

* This represents a net count of individuals with duplicates deducted.

TABLE IIB

COLLEGIATE ENROLLMENT BY QUARTERS

1963-64

College or School	First Term Summer Session 1963			Second Term Summer Session 1963			Fall 1963			Winter 1964			Spring 1964			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Ag., For., and H.E.	138	224	362	132	125	257	1,216	697	1,913	1,228	653	1,881	1,014	632	1,646	1,539	883	2,422
Business Administration	290	12	302	244	13	257	824	26	850	691	21	712	632	26	658	1,000	36	1,036
Veterinary Medicine	24		24	18	1	19	163	9	172	164	9	173	162	9	171	167	9	176
Dentistry	55		55	39		39	381	1	382	380	1	381	376	1	377	385	1	386
Dental Hygiene		10	10		7	7		83	83		79	79		78	78		89	89
Education	608	1,454	2,062	371	755	1,126	880	2,037	2,917	829	1,804	2,633	811	1,784	2,595	1,630	3,383	5,013
Institute of Technology	518	13	531	370	12	382	3,009	46	3,055	2,987	45	3,032	2,807	41	2,848	3,590	61	3,651
Graduate:																		
Mpls., St.P., and Duluth	2,175	920	3,095	1,597	522	2,119	4,813	1,128	5,941	4,581	1,056	5,637	4,397	989	5,386	6,591	1,965	8,556
Mayo	590	23	613	590	23	613	606	29	635	530	21	551	518	21	539	685	30	715
Law School	183	9	192	179	8	187	501	15	516	490	14	504	467	14	481	545	16	561
Medicine	274	22	296	267	18	285	522	38	560	519	36	555	510	38	548	597	48	645
Medical Technology		21	21	1	17	18	5	104	109	4	98	102	6	94	100	7	118	125
Nursing and Affiliates	1	161	162	1	152	153	3	289	292	2	281	283	3	234	237	5	372	377
Pharmacy	24	2	26	28	2	30	207	25	232	201	24	225	198	24	222	216	28	244
Liberal Arts	1,522	1,334	2,856	1,133	798	1,931	6,394	4,660	11,054	6,197	4,483	10,680	5,616	4,163	9,779	8,448	6,318	14,766
University	7	11	18	4	7	11	21	36	57	19	32	51	19	30	49	25	41	66
General College	221	76	297	169	42	211	2,484	755	3,239	2,465	692	3,157	2,228	634	2,862	3,342	955	4,297
Public Health	56	72	128	80	63	143	136	69	205	136	53	189	133	45	178	157	118	275
Physical Therapy	1	2	3	1		1	5	39	44	5	40	45	5	40	45	6	40	46
Occupational Therapy	2	27	29	2	25	27	2	47	49	2	46	48	2	45	47	3	55	58
Duluth Campus	661	515	1,176	466	299	765	2,045	1,147	3,192	2,060	1,084	3,144	1,941	1,049	2,990	2,746	1,661	4,407
Morris Campus	25	66	91	3	5	8	439	243	682	422	242	664	391	230	621	494	305	799
Totals	7,375	4,974	12,349	5,695	2,894	8,589	24,656	11,523	36,179	23,912	10,814	34,726	22,236	10,221	32,457	32,178	16,532	48,710
Less Duplicates	1		1	1		1	139	119	258	475	233	708	344	165	509	957	517	1,474
NET TOTALS	7,374	4,974	12,348	5,694	2,894	8,588	24,517	11,404	35,921	23,437	10,581	34,018	21,892	10,056	31,948	31,221	16,015	47,236

* This represents a net count of individuals with duplicates deducted.

TABLE III. SUB-COLLEGIATE ENROLLMENT, 1962-64

School or Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Northwest School and Station, Crookston								
Senior	57	22	79	96	25	121	42	21
Junior	90	19	109	77	11	88		16
Sophomore	73	14	87	64	7	71		1
Freshman	51	6	57	49	7	56		
Unclassed				1		1	1	
Total	271	61	332	287	50	337	5	
West Central School and Station, Morris								
Senior	18	2	20					20
Junior								
Sophomore								
Freshman								
Unclassed								
Total	18	2	20					20
North Central School and Station, Grand Rapids								
Senior	11		11	11		11		
Junior	16		16	14		14		2
Sophomore	20		20					20
Freshman								
Unclassed				1		1	1	
Total	47		47	26		26		21
Southern School and Station, Waseca								
Senior	45	16	61	35	17	52		9
Junior	45	21	66	55	13	68	2	
Sophomore	50	14	64	37	19	56		8
Freshman	38	20	58	41	18	59	1	
Unclassed								
Total	178	71	249	168	67	235		14
University High School, Minneapolis								
Nursery School, Minneapolis	240	233	473	235	222	457		16
Kindergarten, Minneapolis	43	43	86	46	44	90	4	
Elementary School, Minneapolis	15	12	27	10	12	22		5
Laboratory School, Duluth	73	77	150	74	72	146		4
NET TOTALS SCHOOLS	967	598	1,565	928	563	1,491		74
Agricultural Short Courses, St. Paul								
Aircraft Sprayers	56		56	103		103	47	
Babcock Test	138	6	144					144
Beef-Cattle Grasslands	237	5	242	291	9	300	58	
Beef Feeders Day				290	3	293	293	
Beekeepers	77	7	84	35	2	37		47
Boys State	365		365	395		395	30	
Christmas Tree Mgt.	163	26	189	102	6	108		81
Communications				39	6	45	45	
Concrete Drain Tile Mfg.	62		62	65	1	66	4	
Crops and Soils Inst.	107		107					107
Crops Judging	25		25					25
Dairy Herd Improvement	58	9	67	57	9	66		1
Dairy Products	403	2	405	424	1	425	20	
Editors Short Course	170		170	66	60	126		44
Extension Marketing				39		39	39	
Fair Management	98	16	114	182	93	275	161	
Farm Income Tax	380	64	444	413	91	504	60	
Farm Machinery	72		72	74		74	2	
Farm Management	30		30					30
Flock Selection and Pullorum Testing				79	2	81	81	
4-H Agronomy Conference				57		57	57	
4-H Electric Conference				56	4	60	60	
4-H Jr. Leadership				314	472	786	786	
4-H Radio Speaking				13	28	41	41	

TABLE III. (Continued)

School or Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Future Farmers of America	2,286		2,286	2,275		2,275		11
Future Farmers of America Award				73		73	73	
Garden Store Operators	121	10	131	183	26	209	78	
Graduate Veterinarians	176	3	179	183	2	185	6	
Grain Elevator Operators	23		23					23
Grain Futuro Mfg.				32		32	32	
Grain Grading				31		31	31	
Home Lighting Inst.	32	11	43					43
Horticulture	180	139	319	180	96	276		43
Inst. of Ag. Seminar				143	30	173	178	
Landscaping				38		38	38	
Liquified Petroleum Gas	121		121	170		170	49	
Livestock Breeders	82	15	97	105	6	111	14	
Livestock Judging	60	1	61					61
Lumbermen's Conference	37		37	80		80	43	
Market Milk Flavor	37		37	327	1	328	291	
Material Handling				123		123	123	
Midwest Milk Mgt.				15		15	15	
Milk Judging	25		25	120		120	95	
Minnesota Academy of Science	1,100		1,100					1,100
Minnesota Nutrition Conf.	185		185	157		157		28
Minnesota School Food Service	238	3	241					241
Minnesota State Fire School	450		450	483		483	33	
Minnesota Town and Country Arts Show				1,500	2,500	4,000	4,000	
Parasitology	87	8	95					95
Property Tax	532	43	575	684	64	748	173	
Quarter Horse Conf.	162	126	288					288
Retail Feed Dealers	23		23	37		37	14	
Rose Growers Day	19	31	50					50
Rural Arts Show	830	1,670	2,500					2,500
Rural Electrification				43	1	44	44	
School Lunch Workshop	12	328	340					340
Shade Tree Maintenance	163	2	165	257	9	266	101	
Soils and Fertilizer	565		565	397		397		168
Spring Wheat Workers Conf.	137	2	139					139
Student Council Ldsp.				52	83	135	135	
Swine Producers	142	7	149	164	2	166	17	
Town and Country Churches	114	2	116	63	8	71		45
Turf Mgt.				292	1	293	293	
Vocational Ag. Conf.	122		122					122
Weed and Seed Inspectors	115		115	151		151	36	
Yale Industrial Forestry	30		30					30
TOTALS	10,647	2,536	13,183	11,457	3,616	15,073	1,890	
Northwest School of Agriculture, Crookston								
Beekeepers				8		8	8	
Cooperative Managers and Directors				47		47	47	
Creative Music					25	25	25	
4-H Club	295	236	531					531
Inst. of Ag. Seminar				175	28	203	203	
Land Use				42	2	44	44	
Public Affairs					59	59	59	
Sugar Beet Research and Production				403		403	403	
Town and Country Inst.				46	4	50	50	
Women's Week		49	49					49
West Central School and Station, Morris								
Beef Feeders Day	206		206					206
Beekeepers				7	1	8	8	
4-H Club	265	362	627					627
Inst. of Agriculture Seminar				116	24	140	140	
Lamb Feeders Day	231	11	242	239	12	251	9	
Livestock Corn and Soybean Day	149	2	151					151

TABLE III. (Continued)

School or Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Station Day	409	27	436					436
Success Farm Operation				23		23	23	
Swine Feeders Day	298	3	301	268		268		33
North Central School and Station, Grand Rapids								
4-H Club	131	204	335					335
Homemakers Camp		113	113					113
Inst. of Agriculture Seminar				109	29	138	138	
Southern School and Station, Waseca								
Adult Arc Welding				24		24	24	
Beekeepers				9		9	9	
Inst. of Agriculture Seminar				143	25	168	168	
Low-Cost Meal					6	6	6	
Public Affairs				52	16	68	68	
Sheep Shearing				28		28	28	
Swine Feeders Day				157		157	157	
Southwest Experiment Station, Lamberton								
Beef Cattle Mgt.				204		204	204	
Inst. of Agriculture Seminar				102	12	114	114	
Swine Feeders Day				250		250	250	
Winter Crops Day				403	6	409	409	
Total Short Courses	12,631	3,543	16,174	14,312	3,865	18,177	2,003	
NET TOTALS, SCHOOLS AND SHORT COURSES								
	13,598	4,141	17,739	15,240	4,428	19,668	1,929	

TABLE IV-A. EXTENSION ENROLLMENT, 1962-64

Department or Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	11,486	6,693	18,179	13,658	8,035	21,693	3,514	
Extension Short Courses								
Administrative Leadership	17	3	20					20
American Foreign Policy					16	16	16	
American Political Parties				8	23	31	31	
Anatomy and Medical Terminology	84	176	260	77	114	191		69
Ancient Culture	7	7	14					14
Arts of Reading		43	43					43
Basic Science for X-Ray Technique	24	90	114	31	121	152	38	
Better Letter Program	62	7	69	116	48	164	95	
Better Technical Writing	23		23	88		88	65	
Birds of Minnesota	5	11	16					16
Clergyman's Seminar				14		14	14	
Collective Bargaining	62	5	67	52	33	85	18	
Comparative Religions	12	23	43					48
Creative Dance	12	32	44		6	6		38
Cultivation of Vision		53	53					53
Culturally Deprived Child				16	11	27	27	
Curriculum Improvement				17	18	35	35	
Economics and School Financing	20		20					20
Effective Communication				45	1	46	46	
Effective Speaking				23	2	25	25	
Efficient Reading	23	9	32		1	1		31

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

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TABLE IV A. (Continued)

Department or Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Employment and Unemployment				62	14	76	76	
Europe in Post-War World					17	17	17	
Go'f	103	155	258		58	58		200
Humanities	1	42	43					43
India and Pakistan				1	22	23	23	
Indians of Minnesota		34	34					34
Intercultural Seminar		19	19	6	9	15		4
Labor Development	25		25					25
Labor Education	15	2	17					17
Labor History	35	4	39					39
Labor Legislation	31	5	36					36
Leadership Training	39	13	52					52
Logic of Scientific Mind				58		58	58	
Medical Laboratory Assistants					3	3	3	
Middle Management	36	4	40					40
Modern Literature					2	2	2	
Modern Trade Union				32		32	32	
Negro in the North				12	25	37	37	
New Worlds of Knowledge	44	89	133					133
Nineteenth Century American Literature					23	23	23	
Origins of Religion				9	10	19	19	
Parliamentary Law	39	2	41					41
Patterns of Meaning and Despair					18	18	18	
PERA				32	49	81	81	
Personnel	40	7	47					47
Poetry, Painting and Music of Today	1	14	15					15
Primary Ideas in 20th Century					37	37	37	
Public Speaking	19	1	20	20		20		
Railway Labor Act				9		9	9	
Reasons, Rules and Riddles				1	12	13	13	
Red Cross Life Saving					16	16	16	
Refrigeration Workers	30		30					30
Religions of the Orient					21	21	21	
Russian History		42	42					42
Small Particle Technology				47		47	47	
Special Seminar for Men	2		2					2
Steward Training	59	1	60	110	11	121	61	
Structural Design	49	4	53					53
Survey of Religions				8	13	21	21	
Swimming	122	379	501	190	417	607	106	
Teamsters	21		21					21
Tennis		27	27					27
Union Administration	58	1	59	20	6	26		33
Union Leadership				89	11	100	100	
Union Meetings				7	10	17	17	
United States Supreme Court					20	20	20	
World of Music					12	12	12	
Total Short Courses	1,133	1,304	2,437	1,200	1,230	2,430		7
Correspondence Study	5,685	4,395	10,080	5,873	4,771	10,644	564	
Grand Total, Extension	18,304	12,392	30,696	20,731	14,036	34,767	4,071	
Less Duplicates	508	281	789	606	335	941	152	
Net Grand Totals	17,796	12,111	29,907	20,125	13,701	33,826	3,919	

TABLE IV B. CENTER FOR CONTINUATION STUDY ENROLLMENT, 1962-64

Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Accident Prevention				14	13	27	27	
Adoption Seminar				23	28	51	51	
Alcohol Education	19	7	26					26
Anesthesiology	44		44	38	2	40		4
Aspects of Supervision	19	6	25					25
Assessors School	237	11	248	248	16	264	16	
Audio-Visual Institute	72	4	76					76
Auto Insurance	89	2	91					91
Automotive Crash and Field Demonstration	67	2	69					69
Automation, Data Handling and Quality Control					64	147	147	
Bituminous Conference	102		102	136		136	34	
Building Officials	98		98	100		100	2	
Cancer Detection	1		1					1
Cancer Therapy		273	273					273
Cardiovascular Diseases	81		81					81
Care of the Aged	23	48	71	35	36	71		
Child-Caring Institute	103	94	197	45	65	110		87
Child Psychiatry				22	5	27	27	
Choral Arts	28	27	55	18	23	41		14
City Managers	40	1	41	35		35		6
City and Village Engineering	80		80	80		80		
Clergy Economic Education				26		26	26	
Clergyman's Seminar				15	1	16	16	
Clerks and Finance Officers	65	20	85					85
Clinical Dietetics		137	137		103	103		34
Collective Bargaining				40	9	49	49	
Common Market	50	91	141					141
Communications				42	29	71	71	
Community Action for Youth				14	194	208	208	
Community Resources for Aged				20	58	78	78	
Community Services				44	14	58	58	
Competitive Credit				25	11	36	36	
Concrete Conference	139		139	104	2	106		33
Correctional Officers	44		44	16	2	18		26
County Highway Engineers	89		89	93		93	4	
County Welfare Boards	69	13	82					82
County Welfare Directors				76	18	94	94	
Creativity in Education				3	65	68	68	
Credit Union Leaders	63	2	65	18	3	21		44
Credit Union Management	29	11	40					40
Crown and Bridge				10		10	10	
Curriculum Development				16	7	23	23	
Curriculum and Supervision	102	29	131	107	40	147	16	
Dental Assistants		81	81		81	81		
Dental Foil	1		1					1
Dental Prosthesis	8		8					8
Dentistry for Children	7		7					7
Dentures	7		7					7
Deprived Children	22	3	25	21	4	25		
Dermatology	26		26	22		22		4
Disadvantaged Youth				64	47	111	111	
Discussion Leadership	5	17	22	5	12	17		5
Disease in Children				35	3	38	38	
Diseases of the Shoulder	38		38					38
Disturbed Children	95	103	198	67	68	135		63
Driver Education	76	1	77					77
East Asian Cultures	8	21	29					29
Education of Women	32	43	75					75
Electrocardiography	41		41	53		53	12	
Elementary Reading				22	8	30	30	
Employment Security				43	20	63	63	
Endodontia	16		16	21		21	5	
Enzymes	32	61	93					93
Family Therapy	40	65	105					105
Finance Officers				32	3	35	35	
Foreign Student Advisers	28	31	59	17	12	29		30

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

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TABLE IV B (Continued)

Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Government Contracts				81	1	82	82	
Group Work with Handicapped	25	17	42					42
Gynecology				41	3	44	44	
Head and Spine Injuries	17	1	18					18
Higher Education and Married Students	14	6	20					20
Hospital Administration	32	40	72	212	61	273	201	
Hospital Dentistry	8		8	8		8		
Housing for Land-Grant Universities	5	57	62					62
Human Chromosome Techniques	17	3	20					20
Indian and Urban Living	10	21	31					31
Individual Change	8	8	16					16
Industrial Relations								
Central Labor Conference	86	4	90	82	12	94	4	
Industrial Ventilation	37		37	29		29		8
Information Retrieval	184	119	303					303
Infrared Spectra	87	13	100	110	6	116	16	
Institutional Housekeeping	6	45	51	7	53	60	9	
Internal Medicine	22	1	23	60		60	37	
Juvenile Court Judges	78	3	81	72	1	73		8
Juvenile Officers	45	8	53	58	7	65	12	
Labor Law	21		21					21
Land Title Abstracters				25	10	35	35	
Language Conference	90	331	421					421
Law Enforcement Officers	157	4	161	123	3	126		35
Leadership Training	55		55	40		40		15
Library Service	41	202	243					243
Maternal and Child Health								
Nursing		65	65		62	62		3
Mayors and Councilmen	83	5	88	133	4	137	49	
Mental Hospital Business Administration				31	1	32	32	
Mining Symposium	722	2	724	797	1	798	74	
Minnesota State Federation of Teachers	12	3	15	56	10	66	51	
Modern Language Conference				59	175	234	234	
Modern Mathematics	6	62	68					68
Mortuary Management				57	4	61	61	
Multiple Restoration	12	1	13	14	1	15	2	
Municipal Clerks				42	13	55	55	
Neurology	27	2	29					29
Neurosurgery				94	4	98	98	
Nursing Anesthesia	4	64	68	5	51	56		12
Nursing Home Administration	22	49	71					71
Obstetrics	33	5	38					38
Occupational Health								
Nurses		71	71	1	124	125	54	
Ophthalmology	56	2	58	37		37		21
Oral Medicine	88		88	85		85		3
Oral Surgery	8		8	8		8		
Organ	10	18	28					28
Orthodontics	75		75	44		44		31
Orthopedic Surgery				67	1	68	68	
Orthopedics	52		52					52
Osteopathic Physicians				27		27	27	
Otolaryngology	32		32					32
Parent and Family Life Education	10	219	229	23	272	295	66	
Parents of Deaf Children	16	42	58	12	21	33		25
Park and Recreation Conference				72	2	74	74	
Pastoral Counseling	40	1	41	30	4	34		7
Patient Care		28	28		61	61	33	
Pediatrics	34	3	37	45	6	51	14	
Periodontics	20		20	20		20		
Pharmacology	8		8	21		21	13	
Pharmacy	30	3	33	44	12	56	23	
Physical Medicine	16	18	34					34
Piano		86	86					86

BIENNIAL REPORT

TABLE IV B (Continued)

Course	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Plan for Future				33	24	57	57	
Restaurants				57		57	9	
Plant Engineering	48		48	90		90	3	
Police Chiefs	87		87	2	262	264	214	
Practical Nurses	1	49	50	34		34	1	
Proctology	33		33	8		8	8	
Prosthetics				23		23		4
Property Tax	27		27	14		14	14	
Psychotherapy				10	77	87		74
Public Health Nursing	4	157	161	2		122		35
Public School Law	154	3	157	57	1	58	3	
Public Works				30	59	89	89	
Administration	55		55					
Race Relations								
Radiographic								
Interpretation	7		7					7
Radiology	386	14	400	424	11	435	35	
Records Administration	33	19	52	21	15	36		16
Religious Education	19	51	70	35	55	90	20	
Residence Halls--Centers for Education				48	23	71	71	
Respiratory Diseases				55	1	56	56	
Right of Way Seminar				163	1	164	164	
Roentgenology				6		6	6	
Safety Engineering	27		27	24		24		3
School Drop-Outs	9	4	13					13
Secondary School								
Principals	221	16	237	201	2	203		34
Secretarial Institute		16	16					16
Sewage and Water Works Operators				60		60	60	
Sewage Works Operators	119		119	139		139	20	
Social Work	15	11	26	43	27	70	44	
Soil's Mech. and Foundation Engineering	113		113	97		97		16
Steelworkers	40	2	42	248		248	206	
Summer School Program				83	3	86	86	
Surgery	238		238	98		98		140
Tax Institute	159	8	167	257	10	267	100	
Traffic Court and Municipal Court	43	12	55	50	6	56	1	
Tuberculin Test	7	48	55					55
Understanding the Adolescent	35	13	48					49
United States and Latin America				41	27	68	68	
Unskilled Young Adult	9	7	16					16
Wastes Engineering	59		59	56		56		3
Water and Sewage Operators	57		57					57
Water Works Operators	138		138	167		167	29	
Welding	61		61					61
Working Women in Minnesota	4	65	69					69
World Affairs	45	10	55					55
X-Ray Diffraction	15	2	17	7		7		10
Totals	6,964	3,343	10,307	7,521	2,658	10,179		123

TABLE V ENROLLMENT SUMMARY 1962-1964

	Year 1962-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	29,422	15,166	44,588	31,221	16,015	47,236	2,648	
Sub-Collegiate	13,598	4,141	17,739	15,240	4,428	19,668	1,929	
Totals	43,020	19,307	62,327	46,461	20,443	66,904	4,577	
Less Duplicates								
Net Totals	43,020	19,307	62,327	46,461	20,443	66,904	4,577	

DIVISIONS OF EDUCATIONAL RELATIONSHIPS

TABLE V (Continued)

	Year 1952-63			Year 1963-64			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Extension	17,796	12,111	29,907	20,125	13,701	33,826	3,919	
Center for Continuation Study	6,964	3,343	10,307	7,521	2,658	10,179		128
Grand Totals	67,780	34,761	102,541	74,107	36,802	110,909	8,368	
Less Duplicates	2,461	1,269	3,730	2,651	1,364	4,015	285	
NET GRAND TOTAL	65,319	33,492	98,811	71,456	35,438	106,894	8,083	

TABLE VI COMPARATIVE ENROLLMENT FIGURES 1962-1964

	Year 1962-1963			Year 1963-1964			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
Ag., For., Home Ec., and Vet. Med. (incl. Schools of Ag. and Ag. Short Courses)	14,699	4,514	19,213	16,423	4,779	21,202	1,724		265	
Business Administration	775	32	807	895	31	926	120			1
Dentistry (incl. Dent. Hyg.)	383	88	471	384	88	472	1			
Education (incl. High School, Nursery, Kindergarten, and Elementary Grades)	1,539	2,728	4,267	1,598	2,816	4,414	59		88	
Institute of Technology	3,315	41	3,356	3,430	52	3,482	115		11	
Graduate School (incl. Mayo)	5,815	1,237	7,052	6,075	1,361	7,436	260		124	
Law School	413	16	429	512	15	527	99			1
Medicine (incl. Med. Tech., Nursing, Phys. and Occup. Therapy, and Public Health)	670	636	1,306	717	629	1,346	47			7
Pharmacy	213	27	240	213	28	241			1	
Liberal Arts	7,136	5,168	12,304	7,584	5,397	12,981	448		229	
University College	16	33	49	23	38	61	7		5	
General College	3,045	950	3,995	3,236	918	4,154	191			32
Duluth Campus	2,331	1,271	3,602	2,400	1,274	3,674	69		3	
Morris Campus	402	172	574	490	265	755	88		93	
Summer Session (Net)	8,074	5,226	13,300	8,719	5,853	14,572	645		627	
Total	48,826	22,139	70,965	52,699	23,544	76,243	3,873	1,405		
Less Duplicates	5,806	2,832	8,638	6,238	3,101	9,339	432		269	
Net Totals	43,020	19,307	62,327	46,461	20,443	66,904	3,441	1,136		
Extension										
General Extension	11,486	6,693	18,179	13,658	8,035	21,693	2,172		1,342	
Short Courses	1,133	1,304	2,437	1,200	1,230	2,430	67			74
Correspondence	5,685	4,395	10,080	5,873	4,771	10,644	188		376	
Total	18,304	12,392	30,696	20,731	14,036	34,767	2,427	1,644		
Less Duplicates	508	281	789	606	335	941	98		54	
Net Totals	17,796	12,111	29,907	20,125	13,701	33,826	2,329	1,590		
Center for Continuation Study	6,964	3,343	10,307	7,521	2,658	10,179	557			685
Summary:										
Total Resident Students	43,020	19,307	62,327	46,461	20,443	66,904	3,441	1,136		
Total Extension Students	17,796	12,111	29,907	20,125	13,701	33,826	2,329	1,590		
Total C.C.S.	6,964	3,343	10,307	7,521	2,658	10,179	557			685
Grand Totals	67,780	34,761	102,541	74,107	36,802	110,909	6,327	2,041		
Less Duplicates	2,461	1,269	3,730	2,651	1,364	4,015	190		95	
Net Grand Totals	65,319	33,492	98,811	71,456	35,438	106,894	6,137	1,946		

TABLE VIIA

DEGREES CONFERRED

1962-1964

Colleges and Degrees	Year 1962-1963			Year 1963-1964		
	Men	Women	Total	Men	Women	Total
Agriculture and Business Administration						
Bachelor of Agricultural Business Administration with distinction	1		1			
Bachelor of Agricultural Business Administration	14		14	12		12
Agriculture and Education						
B.S. with high distinction (Ag Ed)	1		1			5
B.S. with distinction (Ag Ed)	6		6	5		20
B.S. (Ag Ed)	20		20	20		
B.S. with high distinction (Home Ec Ed)		5	5			5
B.S. with distinction (Home Ec Ed)		14	14		5	5
B.S. (Home Ec Ed)		38	38		39	39
Agriculture, Forestry, and Home Economics						
B.S. with high distinction (Agriculture)	1		1	2	1	3
B.S. with distinction (Agriculture)	9		9	6	1	7
B.S. (Agriculture)	51		51	86		86
B.S. with high distinction (Forestry)	3		3	2		2
B.S. with distinction (Forestry)	3		3	9		9
B.S. (Forestry)	36		36	44		44
B.S. with high distinction (Home Economics)		4	4		3	3
B.S. with distinction (Home Economics)		5	5		7	7
B.S. (Home Economics)		49	49		51	51
Business Administration, School of						
B.B.A. with high distinction	1		1			
B.B.A. with distinction	1		1			
B.B.A.	20		20	20	1	21
B.S. in Business with high distinction	2		2	1		19
B.S. in Business with distinction	18		18	17	2	19
B.S. in Business	212	5	217	228	6	234
B.S. in Economics with high distinction	1		1			
B.S. in Economics with distinction	2	1	3	1		1
B.S. in Economics	16	1	17	22		22
Dentistry, School of						
B.S. with high distinction	5		5	6		6
B.S. with distinction	7		7	8		8
B.S.	72		72	73		73
Doctor of Dental Surgery	86		86	82		82
Graduate Dental Hygienist		32	32		35	35
Education, College of						
B.S. with high distinction	3	25	28	4	28	32
B.S. with distinction	29	100	129	26	109	135
B.S.	184	388	572	185	456	641
Master of Education	13	26	39	13	18	31
General College						
Associate in Arts	404	108	512	435	104	539
Institute of Technology						
Bachelor of Aeronautical Engineering	27		27	20		20
Bachelor of Agricultural Engineering	5		5	4		4
Bachelor of Architecture with high distinction	1		1			
Bachelor of Architecture with distinction	4		4	1	1	2
Bachelor of Architecture	24		24	16		16
Bachelor of Chemical Engineering with distinction				1		1
Bachelor of Chemical Engineering	17		17	29	1	30
Bachelor of Chemistry with high distinction	1		1	1	1	2
Bachelor of Chemistry with distinction	7	3	10	6		6
Bachelor of Chemistry	10	1	11	13	1	14
Bachelor of Civil Engineering with distinction	3		3	1		1
Bachelor of Civil Engineering	43		43	42		42
Bachelor of Electrical Engineering with high distinction				2		2
Bachelor of Electrical Engineering with distinction	4		4	5		5
Bachelor of Electrical Engineering	111		111	88		88
Bachelor of Geological Engineering	3		3			
Bachelor of Geophysics	1		1	2		2
Bachelor of Mathematics with high distinction	2		2	1	1	2
Bachelor of Mathematics with distinction	3		3	5		5
Bachelor of Mathematics	7	1	8	6		6
Bachelor of Mechanical Engineering with high distinction	2		2	1		1

TABLE VIIA—Continued

Colleges and Degrees	Year 1962-1963			Year 1963-1964		
	Men	Women	Total	Men	Women	Total
Bachelor of Mechanical Engineering with distinction	9	.....	9	1	.....	1
Bachelor of Mechanical Engineering	74	.....	74	73	.....	73
Bachelor of Metallurgical Engineering	4	.....	4	4	.....	4
Bachelor of Metallurgy	5	.....	5	3	.....	3
Bachelor of Mineral Engineering	.....	.....	.....	3	.....	3
Bachelor of Mining Engineering with distinction	1	.....	1	.....	.....	.....
Bachelor of Mining Engineering	4	.....	4	2	.....	2
Bachelor of Physics with high distinction	7	.....	7	4	.....	4
Bachelor of Physics with distinction	7	.....	7	9	.....	9
Bachelor of Physics	13	.....	13	16	1	17
B.S. with high distinction	11	.....	11	16	.....	16
B.S. with distinction	32	.....	32	40	.....	40
B.S.	13	.....	13	18	.....	18
Mechanical Engineer	.....	.....	.....	1	.....	1
Metallurgical Engineer	.....	.....	.....	1	.....	1
Law School	.....	.....	.....	.....	.....	.....
Bachelor of Laws <i>magna cum laude</i>	6	.....	6	7	1	8
Bachelor of Laws <i>cum laude</i>	19	1	20	23	.....	23
Bachelor of Laws	72	.....	72	78	3	81
Bachelor of Science in Law	2	.....	2	4	.....	4
Liberal Arts	.....	.....	.....	.....	.....	.....
Associate in Liberal Arts	22	24	46	23	35	58
B.A. <i>summa cum laude</i>	10	8	18	12	6	18
B.A. <i>magna cum laude</i>	21	24	45	24	21	45
B.A. <i>cum laude</i>	60	56	116	41	32	73
B.A.	586	242	828	663	381	1,044
Medical Sciences, College of	.....	.....	.....	.....	.....	.....
B.S. with high distinction (Medical Tech)	.....	2	2	.....	2	2
B.S. with distinction (Medical Tech)	.....	11	11	.....	6	6
B.S. (Medical Tech)	1	22	23	2	16	18
B.S. (Medicine)	67	7	74	62	3	65
B.S. in Nursing with high distinction	.....	3	3	.....	3	3
B.S. in Nursing with distinction	.....	8	8	.....	11	11
B.S. in Nursing	.....	32	32	.....	39	39
B.S. in Nursing Administration with high distinction	.....	.....	.....	.....	1	1
B.S. in Nursing Administration with distinction	1	2	3	.....	4	4
B.S. in Nursing Administration	.....	4	4	.....	7	7
B.S. with high distinction (Occup Therapy)	.....	1	1	.....	3	3
B.S. with distinction (Occup Therapy)	.....	4	4	1	7	8
B.S. (Occup Therapy)	.....	12	12	.....	14	14
B.S. with high distinction (Physical Therapy)	.....	1	1	1	3	4
B.S. with distinction (Physical Therapy)	1	6	7	.....	3	3
B.S. (Physical Therapy)	2	9	11	2	13	15
B.S. with high distinction (Pub Health Nurs)	.....	2	2	.....	2	2
B.S. with distinction (Pub Health Nurs)	.....	5	5	.....	7	7
B.S. (Pub Health Nurs)	.....	35	35	.....	25	25
Doctor of Medicine	119	6	125	132	3	135
Master of Hospital Administration	28	1	29	32	.....	32
Master of Nursing Administration	1	16	17	2	9	11
Master of Public Health	14	7	21	32	18	50
Mortuary Science	.....	.....	.....	.....	.....	.....
Associate in Mortuary Science	45	.....	45	57	.....	57
Pharmacy, College of	.....	.....	.....	.....	.....	.....
B.S. in Pharmacy	26	6	32	37	4	41
University College	.....	.....	.....	.....	.....	.....
B.A. <i>cum laude</i>	1	1	2	1	3	4
B.A.	2	6	8	4	7	11
B.S.	2	3	5	.....	6	6
Veterinary Medicine, College of	.....	.....	.....	.....	.....	.....
B.S. with high distinction	3	.....	3	3	1	4
B.S. with distinction	5	.....	5	7	.....	7
B.S.	31	3	34	28	2	30
Doctor of Veterinary Medicine	46	.....	46	30	2	32
Graduate School	.....	.....	.....	.....	.....	.....
Master of Arts	343	143	486	347	206	553
Master of Arts in Public Administration	6	2	8	12	.....	12
Master of Business Administration	23	.....	23	14	1	15
Master of Fine Arts	5	.....	5	4	1	5
Master of Forestry	3	.....	3	3	.....	3
Master of Science	146	35	181	173	43	216

TABLE VIIA—Continued

Colleges and Degrees	Year 1962-1963			Year 1963-1964		
	Men	Women	Total	Men	Women	Total
M.S. in Aeronautical Engineering	8		8	5		5
M.S. in Agricultural Engineering	3		3	2		2
M.S. in Anesthesiology	1		1	2		2
M.S. in Chemical Engineering	7		7	7		7
M.S. in Civil Engineering	38		38	28		28
M.S. in Dentistry	17		17	12	1	13
M.S. in Dermatology	6		6	2		2
M.S. in Electrical Engineering	29		29	23		23
M.S. in Industrial Engineering	6		6	6		6
M.S. in Mechanical Engineering	14		14	24		24
M.S. in Medicine	19		19	13		13
M.S. in Metallurgical Engineering	2		2	2		2
M.S. in Mineral Engineering	5		5	5		5
M.S. in Neurology	2		2			
M.S. in Neurosurgery				3		3
M.S. in Obstetrics and Gynecology	3		3	4		4
M.S. in Ophthalmology	2		2	4		4
M.S. in Orthopedic Surgery	11		11	3		3
M.S. in Otolaryngology	4		4	1		1
M.S. in Pathology	5		5	1		1
M.S. in Pediatrics	1		1	1		1
M.S. in Physical Medicine and Rehabilitation	1		1			
M.S. in Psychiatry				1		1
M.S. in Radiology	1		1	5		5
M.S. in Surgery	16		16	14		14
M.S. in Urology				4		4
Master of Social Work	11	15	26	14	22	36
Doctor of Philosophy	279	23	302	283	19	302
Ph.D. in Medicine	5		5	7		7
Ph.D. in Neurosurgery				1		1
Ph.D. in Physiology	1		1			
Ph.D. in Radiology	1		1			
Ph.D. in Surgery	5		5	6		6
Duluth						
Associate in Arts	4	9	13	3	7	10
B.A. <i>summa cum laude</i>	3	1	4	5	1	6
B.A. <i>magna cum laude</i>	3	1	4	5	1	6
B.A. <i>cum laude</i>	15	3	18	20	5	25
B.A.	139	21	160	211	13	224
B.S. <i>summa cum laude</i>		1	1		2	2
B.S. <i>magna cum laude</i>		5	5	4	4	8
B.S. <i>cum laude</i>	5	24	29	10	26	36
B.S.	93	135	228	167	136	303
Morris						
B.A. with high distinction				3	2	5
B.A. with distinction				10	3	13
B.A.	1		1	29	12	41
B.S.					1	1
Grand Totals	4,161	1,794	5,955	4,553	2,081	6,634

TABLE VIIB CERTIFICATES CONFERRED 1962-1964

School, Division, or Course	Year 1962-1963			Year 1963-1964		
	Men	Women	Total	Men	Women	Total
Agriculture, Forestry, and Home Economics						
Technical Certificate in Agriculture	12		12	6		6
Extension						
Accounting Certificate						
Junior	1		1			
Senior				1		1
Business Administration Certificate						
Junior	5		5	6		6
Senior	5	1	6	2		2
Civil Engineering Technician Certificate	2		2	1		1
Electrical Engineering Technician Certificate	1		1			

TABLE VIIB—Continued

School, Division, or Course	Year 1962-1963			Year 1963-1964		
	Men	Women	Total	Men	Women	Total
Engineering Certificate						
Basic Engineering Aide	1		1	4		4
Basic Engineering Science	16		16	22		22
Engineering Mathematics and Science Certificate				1		1
Engineering Science Certificate				6		6
General Engineering						
Junior	1		1			
Senior	3		3			
Industrial Engineering Certificate						
Junior	1		1	1		1
Senior				1		1
Industrial Engineering Technician Certificate	1		1			
Industrial Relations Certificate	2		2	1		1
Interior Design Certificate	1	6	7	1	3	4
Liberal Arts Certificate	5	5	10	7	4	11
Management of Administrative Services Certificate		1	1	1		1
Mechanical Engineering Technician Certificate	1		1			
Public Administration Certificate	1		1	4	1	5
General College						
Certificate of Dental Assistant		28	28		20	20
Graduate						
Certificate of Specialist in Education						
General Educational Administration	2		2	1		1
School Administration	1		1			
School Psychological Services	1		1		1	1
Special Education				1		1
Institute of Technology						
Certificate in Science	3		3	3		3
Medical Laboratory Assistant Certificate		52	52		53	53
Nursing						
Certificate in Practical Nursing		42	42		44	44
North Central School of Agriculture, Grand Rapids						
Diplomas	10		10	13		13
Agricultural Occupations Course				4		4
Special Certificate	3		3	1		1
Woodsmen Certificate	12		12	14		14
Northwest School of Agriculture, Crookston						
Diplomas	48	20	68	90	23	113
Southern School of Agriculture, Waseca						
Diplomas	44	14	58	34	17	51
West Central School of Agriculture, Morris						
Diplomas	18	2	20			
University High School, Minneapolis						
Diplomas	36	35	71	33	34	67
Certificates	2	1	3	1	1	2
Totals	239	207	446	260	201	461

BIENNIAL REPORT

TABLE VIII-A. STUDENTS ENTERED FROM HIGH SCHOOLS, 1962-1963

	Ag., For., & H.E.	Dental Hygiene	Education	Institute of Tech.	Nursing	Science, Lit., & Arts	General	Duluth	Morris	Total
Minneapolis Public Schools..	72	5	25	125	6	808	413	18	2	1,474
St. Paul Public Schools.....	37	1	15	45	3	388	196	7	1	693
Other Minnesota High Schools	386	16	65	423	13	1,783	642	904	213	4,445
Minnesota Private Schools..	34	1	6	76	.....	500	247	60	11	935
Minnesota Schools TOTAL	529	23	111	669	22	3,479	1,498	989	227	7,547
Other States and Terr.....	17	1	18	64	1	179	77	47	2	406
Foreign Countries	1	.....	1	5	.....	12	1	3	.....	23
TOTAL	547	24	130	738	23	3,670	1,576	1,039	229	7,976
Special Students .....	.....	.....	.....	3	2	38	35	4	.....	82
Missing Information .....	.....	.....	.....	1	.....	3	1	7	1	13
GRAND TOTALS	547	24	130	742	25	3,711	1,612	1,050	230	8,071

TABLE VIII-B. STUDENTS ENTERED FROM HIGH SCHOOLS, 1963-1964

	Ag., For., & H.E.	Dental Hygiene	Education	Institute of Tech.	Nursing	Liberal Arts	General	Duluth	Morris	Total
Minneapolis Public Schools..	50	2	31	101	5	787	455	10	5	1,446
St. Paul Public Schools.....	28	2	14	47	.....	365	181	4	1	642
Other Minnesota High Schools	341	8	64	463	5	1,846	678	852	251	4,508
Minnesota Private Schools....	36	4	11	72	2	576	281	66	4	1,052
Minnesota Schools TOTAL	455	16	120	683	12	3,574	1,595	932	261	7,648
Other States and Terr.	10	4	15	65	.....	160	76	37	5	372
Foreign Countries	2	.....	.....	4	.....	14	3	9	.....	32
TOTAL	467	20	135	752	12	3,748	1,674	978	266	8,052
Special Students .....	.....	.....	.....	5	2	23	35	.....	.....	65
Missing Information	6	.....	.....	2	.....	18	13	17	7	63
GRAND TOTALS	473	20	135	759	14	3,789	1,722	995	273	8,180

TABLE IX-A

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1962-1963

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Science, Literature, and Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Total
Institutions in Minnesota	111	44	1	29	4	221	167	110	39	24	10	36	16	542	1	91	12	1	.....	201	21	1,681
Institutions in Other States and Territories	44	14	12	23	4	128	82	681	50	23	3	16	2	382	1	35	41	3	.....	49	21	1,614
Institutions in Foreign Countries	1	.....	.....	.....	.....	3	4	265	.....	.....	.....	.....	.....	11	.....	1	1	.....	.....	13	.....	299
Total	156	58	13	52	8	352	253	1,056	89	47	13	52	18	935	2	127	54	4	.....	263	42	3,594
Special Students	82	24	.....	1	.....	171	47	62	.....	.....	2	7	2	176	.....	2	36	.....	.....	12	1	625
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	.....	17
GRAND TOTALS	238	82	13	53	8	523	300	1,127	89	47	15	59	20	1,111	2	129	90	4	.....	283	43	4,236

TABLE IX-B

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1963-1964

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Total
Institutions in Minnesota	98	37		39	6	160	160	126	54	39	8	20	14	597		92	10	4		173	26	1,663
Institutions in Other States and Territories	44	18	13	10	3	115	62	678	61	32		10	1	341		33	41	1	1	38	18	1,520
Institutions in Foreign Countries	1	1				2	7	238						11			1			5		266
Total	143	56	13	49	9	277	229	1,042	115	71	8	30	15	949		125	52	5	1	216	44	3,419
Special Students	80	30	1			208	44	58	1	2	10	6	1	212		4	22					679
Missing Information	10	2				8	5	34	2	1		1		11		4	2			81	29	190
GRAND TOTALS	233	88	14	49	9	493	278	1,134	118	74	18	37	16	1,172		133	76	5	1	297	73	4,318

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE

TABLE X-A

(OTHER THAN SUMMER SESSION)

1962-1963

	A.E., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Science, Literature, and Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Duplicates	Total
Counties in Minnesota																							
Hennepin	554	327	16	91	36	1,539	1,244	1,569	148	177	36	120	69	6,211	24	2,434	46	10	17	117	12	458	14,797
Ramsey	276	133	12	32	16	590	523	748	76	72	14	43	37	2,466	10	962	18	10	7	29	7	195	6,081
Other Minnesota Counties	1,248	291	100	178	25	997	1,292	1,436	146	235	44	95	128	3,088	11	533	51	18	18	3,321	550	479	13,805
Totals	2,078	751	128	301	77	3,126	3,059	3,753	370	484	94	258	234	11,765	45	3,929	115	38	42	3,467	569	1,132	34,683
Other States and Terr.	76	45	44	82	10	209	246	2,296	59	72	7	42	6	479	2	62	110	8	4	82	5	48	3,946
Foreign Countries	63	11	1	1		15	51	1,002		6		2		54	1	4	24			44		6	1,279
Missing Information	1								1					6	1					9		1	18
GRAND TOTALS	2,218	807	173	384	87	3,350	3,356	7,052	429	562	101	302	240	12,304	49	3,995	249	46	46	3,602	574	1,187	39,926

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

TABLE X-B

1963-1964

	Ag., For., and H.E.	Business	Veterinary Medicine	Dentistry	Dental Hygiene	Education	Institute of Technology	Graduate and Mayo	Law School	Medicine	Medical Technology	Nursing	Pharmacy	Liberal Arts	University	General	Public Health	Physical Therapy	Occupational Therapy	Duluth	Morris	Duplicates	Total
Counties in Minnesota																							
Hennepin	555	397	20	81	39	1,632	1,293	1,628	181	191	41	105	63	6,548	27	2,548	43	13	18	111	18	601	15,552
Ramsey	257	156	14	43	17	599	524	787	80	82	23	49	40	2,486	12	952	11	7	11	39	8	228	6,197
Other Minnesota Counties	1,285	327	100	191	22	1,048	1,375	1,576	181	227	50	129	130	3,382	17	578	35	18	19	3,344	705	571	14,739
Totals	2,097	880	134	315	78	3,279	3,192	3,991	442	500	114	283	233	12,416	56	4,078	89	38	48	3,494	731	1,400	36,488
Other States and Terr.	82	31	40	70	9	191	224	2,347	80	86	6	27	7	450	2	57	103	7	3	83	15	40	3,920
Foreign Countries	58	8				14	54	1,041	2	6	1	2	1	62	3	3	24			44		10	1,323
Missing Information	14	7	2			37	12	57	3	4		1		53		16	3		1	53	8	24	271
GRAND TOTALS	2,251	926	176	385	87	3,521	3,482	7,436	527	596	121	313	241	12,981	61	4,154	219	45	52	3,674	754	1,474	42,002

DEPARTMENT OF ALUMNI RELATIONS

The Minnesota Alumni Association

Accomplishments in this biennium:

1. The Alumni Chapter program was accelerated.
2. The group life insurance program continued to grow.
3. The Alumni Club in the Sheraton-Ritz Hotel was opened with 1,800 members; as of June 30, 1964, it has 2,023 members.
4. The Records System, for 112,000 alumni on tape and computer, was reprogrammed to include coding for husband-wife and degree held.
5. The University of Minnesota, Morris, Alumni Association became the fourteenth constituent group.
6. A program promoting greater participation of alumnae in alumni activities was initiated.
7. A program for increasing emphasis on student-alumni relations was developed.

Officers

For 1962-63

President	Joseph A. Maun, '32 BA; '35 LLB
First Vice President	Franklin D. Gray, '25 BA
Second Vice President	Charles Judd Ringer, '41
Secretary	Edwin A. Willson, '30 BEE
Treasurer	Clifford C. Sommer, '32 BBA
Executive Director	Edwin L. Haislet, '31 BSEd; '33 MA; '38 EdD

For 1963-64

President	Franklin D. Gray, '25 BA
First Vice President	Charles Judd Ringer, '41
Second Vice President	Edwin A. Willson, '30 BEE
Secretary	Betty Sullivan, '22 BS; '35 PhD
Treasurer	Clifford C. Sommer, '32 BBA
Executive Director	Edwin L. Haislet, '31 BSEd; '33 MA; '38 EdD

Office—The Department of Alumni Relations has a staff of six full-time employees, and the Minnesota Alumni Association has a staff of two with one part time.

Budget—For the year 1962-63 the total income for the Department of Alumni Relations was \$72,014, and for the Minnesota Alumni Association, \$77,394, making a total of \$149,408.

For 1963-64 the budget totaled approximately \$163,835 with \$89,603 representing income for the year from the Association and \$74,232 from the University.

Field Service—During the year 1962-63 fifty communities in-state were visited and 15 out-state, while 1963-64 saw 51 in-state and 12 out-state chapters visited. The total number of alumni chapters is 86, 51 in-state and 35 out-state. Of these, two are alumnae groups (Chicago and Detroit) and three are outside the continental limits of the United States (Taiwan, Formosa; Bangkok, Thailand; and Manila, Philippines). The Association received forty-one requests for University speakers in 1962-63 and forty-two requests in 1963-64. In the year 1962-63 114 service requests (films, slides, etc.) were made by in-state chapters, and in 1963-64 there were 130 requests. In 1963-64 fifty in-state chapters reported 174 meetings for an average of 3½ meetings per year. This is about the same average as the previous year, during which 41 chapters reported 144 meetings.

Constituent Alumni Groups—In June, 1964, the senior class of the University of Minnesota, Morris, voted to become a constituent group of the Minnesota Alumni Association, its fourteenth.

Special Events, Services and Promotions—*St. Paul Quarterback Club* was again sponsored by the Alumni Association for the eleventh and twelfth consecutive years. Elmer E. Englebert, Sr., '20 BS, has been chairman and host for the meetings, which were held on Monday noon after each football game at the Minnesota Club in St. Paul.

The Complimentary Athletic Ticket Program begun in 1961-62 and co-sponsored by the Minnesota Alumni Association and the Athletic Department was continued in 1962-63 and 1963-64. In an effort to acquaint more alumni with the University Athletic Program, 200 pairs of complimentary tickets for each basketball and hockey game were sent to randomly selected alumni. Generally, the program was considered quite successful.

Football Meetings were again held in conjunction with the games in 1962 and 1963. In 1962 such meetings were held in Ann Arbor, Michigan; in East Lansing, Michigan; and in Madison, Wisconsin. In 1963 meetings were held in Chicago, Illinois; and Indianapolis, Indiana.

The 1962 Homecoming was held on October 20. "*Chill-Inois*" was the slogan and Louis Gross, '25 LLB, Minneapolis served as Alumni King. In 1963 Homecoming was celebrated on October 26 with "*Wish Again Michigan*" the slogan. The Alumni King was Richard Fitzgerald, '59 BSL. In both years the Alumni Association worked in cooperation with the student Homecoming Committees, especially in conducting the selection of the Alumni King, with nominations being submitted by in-state and out-state chapters.

The 60th and 61st Annual Reunion Celebrations were held during the biennium. The Golden Anniversary Class of 1913 had its celebration on Cap and Gown Day, May 22, 1963, and on June 6, 1963, the Class of 1923 held a reunion luncheon. On Cap and Gown Day, May 13, 1964, the Classes of 1909 and 1914 held reunions. Also in 1962-63 the 1927 Football Team held its 35th Anniversary Reunion.

The Seventh Annual Alumni Honors Dinner was held in conjunction with the 59th annual meeting of the Board of Directors and membership on June 6, 1963. Similarly on June 1, 1964, the Eighth Annual Alumni Honors Dinner and 60th annual meeting took place. In both 1963 and 1964 four alumni received the Alumni Service Award; two alumni were presented the Outstanding Achievement Award in 1963; and in 1964, one alumnus was the recipient. These occasions honor all former recipients of both awards.

Alumni Magazine—Nine regular issues of the *Minnesota Alumni News* were published October through June, 1962-63 and 1963-64. Each issue's size varied with the amount of advertising it contained. The smallest had 40 pages and the largest, 56. The special insert from the Committee on Institutional Cooperation was included in the November, 1963, issue. In 1962-63 the average number of copies per issue was 18,475, and in 1963-64 the average was 20,250. No special issues were published during the biennium. However, the University of Minnesota Alumni Fund purchased space in both June issues for its annual report and Honor Roll.

In 1962-63 no significant change was made in the format of the magazine, and policy in the use of feature material followed the pattern established in previous years. However, with a new editor in 1963-64 significant changes were made in the physical make-up of the magazine during the course of the year. Greater emphasis and more care was given to planning the magazine's appearance, layout, and overall design.

Stricter control over advertising content, placement and conformance to the magazine's mechanical requirements was exercised during the year. Editorially, the magazine's attention was aimed at examining and interpreting the human side of the University and alumni affairs. Objectivity in covering controversial issues was also stressed, particularly in reporting the disputes

over academic freedom and Communist influence which dominated campus news during the year.

Alumni Club—The University of Minnesota Alumni Club in the Sheraton-Ritz Hotel was launched in 1962-63 with the Opening Luncheon and ribbon-cutting ceremony on September 19, 1963. The Board of Directors of the Minnesota Alumni Association serves also as the Board of Directors of the Alumni Club. As of July 1, 1964, the Club had 2,023 members.

Board of Directors—The Board of Directors of the Association met seven times in 1962-63 and five times in 1963-64. Significant actions not covered elsewhere in this report include:

Voting to amend the by-laws to permit faculty to become members of the Association as long as they remain on the faculty or are retired faculty.

Voting that a resolution on the death of Guy Stanton Ford be prepared and placed in the minutes of the meeting and a copy be sent to Mrs. Ford and the Regents.

Establishing an Alumni Club Building Fund, contributors to which would be designated "Founder-Patrons" of the Club.

Continuing efforts to secure the transfer of the Alumni Office to larger quarters.

Reviewing the resolution pertaining to the investment policy of the Board and requesting the Investment Committee for recommendations as to any changes considered appropriate.

Alumni Fund—The University of Minnesota Alumni Fund is a separate division of the Department of Alumni Relations, supported by the University, and now under the direction of the Executive Director of Alumni Relations. It has a staff of three with office space provided at 205 Coffman Memorial Union. For the fiscal year, January 1, 1962, to December 31, 1962, 5,589 alumni gave a total of \$136,270.31 to the Alumni Fund.

Because the Greater University Fund was discontinued and the Alumni Fund started only as of July 12, 1962, the results of the financial report need interpretation. Under the Greater University Fund, alumni annual giving, as well as non-alumni projects were handled together. Now the Alumni Fund is only responsible for Alumni Annual Giving and Alumni Fund Raising Projects of Alumni Chapters, Classes and Constituent Groups. Of the \$315,270.31 total amount received, \$113,125.00 came from Alumni Annual Giving and Alumni Projects. Inasmuch as 107,000 alumni were solicited, this is only a 5.22% effectiveness. The average gift was for \$20.35. This has been a transition year for the fund. Thus the fund results are not comparable to the preceding years—from January 1, 1962, to June 30, 1962, it was the Greater University Fund, with gifts being recorded from many non-alumni projects; from July 1, 1962 to December 31, 1962, it has been the Alumni Fund with only gifts from alumni being recorded.

The 1963 fiscal year, January 1, 1963–December 31, 1963, was the first full year of the operation of the Alumni Fund, and a total of \$97,137.19 was given by 2,948 alumni. This is a 2.68% effectiveness for the 110,000 alumni solicited, with an average gift of \$32.95. For the first time alumni were given the opportunity to support a college project. Once during the year alumni were asked to support the Freshman Scholarship Program. Also started during the year were the 50th Anniversary Class Funds. Chairman of the Alumni Fund Advisory Committee in 1962 was Dr. V. J. Lundquist, '43MD, and in 1963, Joseph A. Maun, '32BA; '35LLB.

—EDWIN L. HAISLET, *director*

OFFICE OF THE DEAN OF STUDENTS

The Dean of Students Office has continued to provide specialized individual assistance to students, to supervise and advise the many and varied student organizations, to coordinate the University's student personnel services, and to assist professionally the many local, state, and national organizations and agencies concerned with student development. While during this biennium student enrollment increased approximately 20%, the size of Dean of

Students staff increased only 9%, requiring some modifications of student personnel services.

Of particular interest is the establishment of the Interest Measurement Research Center built around data and materials presented to the University by the late Dr. E. K. Strong. The other major concern of the Office has been the discussions and activities related to academic freedom, freedom of speech, and human rights.

Residence Counseling—This biennium witnessed greater emphasis on research as an important element basic to improving the Residence Counseling Program. Major research projects were carried out with both the residence counselor and student populations. More intensive training was provided, and further training materials were developed.

Staff size and training meeting figures are listed in the following table:

	1962-63	1963-64
Residential students assisted by residence counselors	7,100	7,100
Residence Counselors	164	164
Head Counselors and Supervisors	14	14
Residence Counseling Board Meetings	17	22
Training Meetings		
Unit-staff	265	356
General	2	2
Head Counselors and Supervisors		
Staff Meetings	12	15

The residential students assisted by residence counselors include not only those students living in residence halls, fraternities, sororities, and rooming houses but also the members of fraternities and sororities who do not live in their respective houses but nevertheless are assisted by the residence counselor. The total numbers of residence counselors include 16 house directors who are employed full-time by the sororities.

Three day training programs for all residence counselors were held in 1962 and 1963. The plan initiated in the previous biennium of providing some separate sessions for residence counselors from different living areas was continued. More attention was given to providing for the special training needs of returning residence counselors. All bureaus of the Office of the Dean of Students assisted in the training of residence counselors in either the pre-service or in-service programs. Efforts were maintained to further develop the role of the residence counselor as a residence educator helping the students to derive more educational benefit from non-classroom experiences.

Coordinator of Students Religious Activities—The number of students filling out religious preference cards remained essentially constant during the two year period—for fall, 1962, 21,418; and for fall, 1963, 21,120. Because of the total increase in student registrations, however, the percentage of students filling out the cards in 1962 was 71.5% and in 1963 was 67.7% as compared with 72.8% in 1961.

Thanks to funds contributed by the Laymen for Religion Committee, it was possible to commence publication of a new magazine, *Religion on Campus*, whose editorial policy committee is made up of members of the Council of Religious Advisers, with the Coordinator of Students' Religious Activities acting as executive editor. Two issues were produced in the year 1962-63 and one in 1963-64.

There was much interest in the Council of Religious Advisers when Dean Errett McDiarmid appointed a faculty committee to evaluate and make recommendations concerning curricular offerings relating to religion. The committee, chaired by Professor R. S. Hoyt, reported in May, 1964, to Dean E. W. Ziebarth and the CLA faculty, making positive recommendations for the strengthening and enrichment of the curriculum in this field. A committee was appointed to implement the recommendations, and these developments were enthusiastically received by the religious advisers.

The extracurricular Panel of World Religions, utilizing the resources of foreign students belonging to faiths other than Judaeo-Christian, has progressed under the cooperative responsibility of the Coordinator of Students'

Religious Activities, the Foreign Students Adviser, and the Minnesota Student Association. It is hoped that this program can contribute to better world understanding in a manner comparable to the inter-group contribution of the Panel of Americans.

Student Activities Bureau—During the 1962-64 biennium, the Student Activities Bureau supervised the programs and projects of 382 different student organizations. Relationships with student leaders and members of the faculty and staff included 97,636 conferences, meetings, interviews, and informal discussions as the staff carried out its assigned function of using the organized extracurricular for educational and other institutional purposes. Administrative approvals for campus publicity, social programs, movies, questions of scholastic eligibility, and off-campus speakers totaled 23,660. Student organizations raised a total of \$125,184 from charitable projects and drives.

Major developments included a marked increase of speakers from off-campus. There were 520 such speakers as compared to 305 for the last biennium. The speakers policy was under continual discussion.

Public discussion of the role of academic freedom and the freedom for students to hear controversial speakers was a major topic during the period.

A number of discussions led to a re-appraisal of the role of student publications and the Board of Publications. A policy for the encouragement of positive human relations programs among and within student organizations was adopted by the Senate Committee on Student Affairs and the Senate.

Office of the Adviser to Foreign Students—The foreign students at the University represented 82 countries of all continents on both sides of the Iron Curtain, with India, China, and Canada having more than 100 nationals at the University of Minnesota; and Korea, United Arab Republic, Philippines, Japan, Iran, and Pakistan having more than 25 nationals at the University. The increases represented a national trend and occurred in spite of termination of the ICA-AID contract between the University of Minnesota and the Korean National Seoul University.

The increase in numbers of foreign nationals is shown in the following:

	1960-61	1961-62	1962-63	1963-64
Graduate Students	720	723	729	749
Undergraduates	140	138	127	99
Adult Specials	22	31	40	34
Mayo Foundation	125	118	145	152
Duluth	27	29	20	42
Honorary Fellows	7	13	6	10
Practical Trainees	70	82	61	106
Special Programs	106	104	104	129
Transition	41	28	30	56
Total	1,294	1,309	1,307	1,415

During this biennium the Office of Adviser to Foreign Students initiated three substantial programs of high quality on the campus; first, the Student Project for International Responsibility, which was jointly sponsored by NSA, MSA, SAB, and FSAO. Second, a program was organized with the Department of Anthropology for the Department of ROTC and its senior cadets who may have foreign assignments as a part of their regular tour of duty. Third, the office organized two standing panels of foreign students to discuss topics of current importance before campus audiences. To complement campus developments in the field of international relations and to encourage community education, a similar program of high quality was developed jointly with the Minnesota International Center for Students and Visitors through approximately 20 discussion groups.

Dr. Moore, Director of the Office, published a report on Minnesota Alumni Abroad based on his study conducted under a grant from the Carnegie Corporation in 1958. Dr. Mestenhauer, Assistant Director of the Office, was granted a Fulbright Lectureship for Japan and the Philippines to undertake a study in Hong Kong for the Department of State about problems of counseling non-sponsored students.

Bureau of Student Loans and Scholarships—Student demand for loans and scholarships has increased for the ninth consecutive biennium. This increase can be illustrated by the following data:

<u>Biennium</u>	<u>Total Amount of Student Financial Aids</u>
1954-56	\$ 639,900
1956-58	1,331,215
1958-60	2,499,917
1960-62	2,799,295
1962-64	3,355,133

The change of the Congressional statutory limitation of National Defense Student Loan funds from \$250,000 to \$800,000 during the fiscal year 1963-64 accounts for a part of the noticeable increase in the dollar amount of student financial aid during this particular biennium.

Of the \$3,355,053 in student financial aid for the present biennium, \$1,375,064 was in the form of scholarships and \$1,980,069 in the form of loans.

Well-qualified applicants for freshman scholarships continue to increase in number. During 1962-64, a total of 3,434 applied who ranked in the upper one-fourth of their graduating high school class. This total represents an increase of 1,248 or 57 per cent over the previous biennium. Of these, approximately 25 per cent received freshman scholarships.

Student Counseling Bureau—This biennium saw the completion of two major research efforts centering on the needs for and effectiveness of counseling. The first was a study of 768 students in the University in the early 1930's. One-half were counseled and a comparable group received no counseling. Twenty-five years after counseling, students who were counseled were found to be more successful than students receiving no counseling. The second study revealed that during the past decade college attendance has increasingly tended to be determined by ability for college than by parental economic status.

In addition to the above efforts, a major development during the biennium was the establishment of the Interest Measurement Research Center in this Bureau with the purpose of continuing vocational interest research conducted in earlier years by Professors Strong and Paterson and their students and colleagues. The first major efforts in this center have been the revision of the Strong Vocational Interest Blank and the establishment of a set of archives of Strong profiles of prominent persons.

During the biennium the student enrollment increased by approximately 20 per cent. The total case load of the Bureau was increased by 41 per cent, the number of persons counseled by 38 per cent, the number of interviews by 17 per cent. The number of tests administered and scored has decreased by approximately 5 per cent due to the changes in tests included in the State-Wide and University Testing Programs.

	<u>1960-62</u>	<u>1962-64</u>
Total Case Load	5,798	8,201
Number of Interviews	15,342	17,960
Total Clearances on Counseling Cases	9,435	12,929
Persons Counseled	5,547	7,630
Number of Tests Scored	1,152,773	1,097,032
Total No. of Data Clearances	24,611	28,198

Of the 7,630 persons provided with counseling during the biennium, 382 were War Orphans provided with counseling under a contract with the Veterans Administration, 136 were provided explicitly with marriage counseling, 150 were physically handicapped persons seen by the special counselor for them, 313 were seen by the Bureau counselor on the St. Paul Campus, and 703 were women participating in the program for continuing education for women. The staff of the Bureau continued to work closely with representatives from other University departments and colleges, non-University colleges, and Minnesota public and private secondary schools. Repeated contacts were maintained with every Minnesota college and high school and personal visits made by Bureau representatives to approximately 25 per cent of these institutions.

The Reading and Study Skills Center was reorganized, the group vocational counseling program emphasized, and substantial research support obtained from the U.S. Office of Education and the University Graduate School.

Speech and Hearing Clinic—During the past biennium there have been extensive changes in the personnel and programs of the Speech and Hearing Clinic. They were intended to increase the efficiency and effectiveness of clinical services, expand research activities, and improve the relationship between the Clinic and academic training program in Speech Pathology.

Program changes during the past biennium included the providing of therapy services on the St. Paul Campus, the establishment of an outpatient evaluation program, increased inter-relationships between the clinical and academic programs, and the expansion of research activities.

Therapy services were provided for 785 persons and consultation and evaluation services for 16,407 persons. Over 40,000 scheduled appointments were made for therapy, consultation, and screening. An intensive, six-week therapy program was offered each summer for persons who stutter. In conjunction with the Foreign Student Adviser's Office, a speech training program was offered to foreign students. A special screening evaluation was provided for students seeking advanced standing in the College of Education. Consultation and evaluation was provided to the Psycho-Educational Clinic and the University elementary and secondary schools.

The Clinic's research program was aided by the remodeling of research facilities and the receiving of four grants in support of research. As a part of the research program, a weekly research seminar was established where staff and students reviewed their work. Twenty written reports on the Clinic research activity have been prepared in the form of planning papers which are distributed to interested persons.

The involvement of the Clinic in the academic program in Speech Pathology has developed significantly in the past two years. New observational facilities made it possible for students enrolled in speech courses to observe outpatient clinical activities. Also, the new outpatient evaluation program has made it possible for students enrolled in speech pathology courses to participate in some clinical activities. The expansion of research facilities and activities has made it possible for more graduate students to pursue this aspect of their training in relation to the Clinic. During the past two years, 39 graduate and 44 undergraduate students have received a portion of their clinical training in the Clinic's program. Twelve graduate students have made extensive use of clinical facilities, staff, and programs in their research training.

The Clinic's personnel has continued to be active in programs within and outside of the University. All of the five staff members holding doctorates now serve on Dean of Students' and departmental committees. In addition, all teach assigned courses in academic departments. Three staff members serve on college and University committees. On the national level, four staff members hold committee assignments with their professional organizations. Staff members have presented papers and have been invited speakers to more than 20 national meetings. On the State level, four of the staff members have held offices in professional organizations and have served in various capacities on numerous committees.

Student Conduct—During the 1962-64 biennium, new complaints of misconduct against 541 students (394 males and 147 females) were reported to the Office of the Dean of Students as compared to the 1960-62 total of 560 (403 males and 157 females). About one new disciplinary case is reported for every 100 students enrolled in the fall quarter on the Minneapolis-St. Paul campuses. The total work load including old cases reopened, services to closed cases, consultation, and counseling cases increased from 1322 in 1960-62 to 1359 in 1962-64. Of the individual cases handled in the Disciplinary Counseling Office during the last two years about two-thirds are classified in three descriptive categories: minor misconduct, disorderly conduct, and theft.

In University residence halls, sororities, fraternities, and co-ops, there were 138 judiciary committees in 1964, which held 730 meetings, heard 1496 charges against students, and took 1601 actions. In 1963, the residence judiciaries held 702 meetings, heard 1537 charges and took 1691 actions. Approxi-

mately two-thirds of the charges were violations of hours and sign-out regulations by women students.

The All-University Committee on Student Behavior, an administrative committee appointed by the President to hear special cases and appeals from the Disciplinary Counseling Office, was convened 20 times, heard 29 cases, and reviewed two former dispositions. Two of the 29 students appealed the decisions made by the Committee on Student Behavior to the President.

Student Housing Bureau—The housing of students is becoming increasingly difficult as enrollments increase. More students live farther from the campus and more live in sub-standard or disapproved residences. The residential status of students enrolled in the fall quarter of each year of the biennium is as follows:

	1962-63	1963-64
Parents' homes	12,280	12,773
Relations' homes	495	392
Own or rent house	2,353	2,328
Residence halls	3,349	3,302
Married student housing	697	597
Fraternalities and sororities	1,155	1,217
Apartments	4,623	4,845
Rooming houses	1,394	1,326
Friend or employer's home	158	143
Residences not identified	2,920	3,606
	29,424	30,529

Each year there have been over 6000 interviews with students concerning housing. The number of disapproved residence units was 704 in 1962-63 and 733 in 1963-64.

Orientation—The orientation-registration program inducted new students into the University during this biennium. Individualized attention was provided to 98% of them during the two-day orientation programs begun about August 1 each year. Also 1,635 attended the twelve freshman camps.

Approximately 5,800 attended the New Student Parents Day, and approximately 1,700 attended the special morning parents information sessions sponsored by the Dads' Association.

St. Paul Campus—The staff of the St. Paul campus office of the Dean of Students had over 15,000 contacts with students, staff, and off-campus persons during the biennium. This office continues to provide programs such as vocational counseling case studies and special Deans retreats for able freshmen.

—E. G. WILLIAMSON, dean

UNIVERSITY HEALTH SERVICE

In general the health of the students on campus was very good. There was no unusual incidence of any illness during the period. However, the number of students hospitalized for severe emotional illness continued to rise during the biennium.

Three deaths occurred among our student patients during the biennium—one from hemophilia, one from malignancy, and one from hemorrhage outside the brain.

The "executive type" periodic health appraisal of key administrative personnel, which was started in the spring of 1962, has been repeated each year of the period here reported. As before, the finding of some hitherto unsuspected pathology in new examinees and the opportunity to observe and counsel concerning old pathology made these examinations worthwhile.

Students who matriculated at the University in the fall quarter of 1963 were the first to have the entrance physical examination requirement met by the private physician, who recorded his findings on forms submitted by the Health Service. Prior to this time the required entrance examination had

been done on the "mass line" basis at the Health Service before the beginning of classes. The "mass line" method proved not to be feasible when the number of new students increased so much that the Health Service could no longer carry out these examinations in a week's time. The new method proved to be very satisfactory in the first year of its operation. In connection with the entrance physical examination, a large number of students took advantage of the Health Service offer to administer the required tuberculin test, to perform the chest x-ray for tuberculin reactors, and to carry out recommended immunizations.

During the biennium the Health Service was responsible for the health care of five groups of Peace Corps trainees. These groups ranged in size from 45 to 87 for a total of 332 trainees.

Expansion of Services—The clinical laboratory has added blood sugar and blood urea nitrogen determinations to its list of procedures available; up to this time, these procedures were performed in University Hospitals.

One of the full-time Health Service physicians initiated a gastroenterology clinic for the special study of diseases of the stomach and intestines, such as peptic ulcers, colitis, etc. This has proved to be a valuable service and has relieved to some extent the overburdened schedules of the internal medicine specialists, who had been seeing all patients with such conditions.

During this biennium the mental hygiene section assigned a social worker to an office adjacent to the general out-patient dispensary area. This experiment, in which a psychiatric social worker is immediately available to the general physicians for consultation, has been quite successful to date and will receive continued trial.

Blue Cross-Blue Shield—The supplemental Blue Cross-Blue Shield plan developed for University students in 1958 continues to increase in popularity; during the 1963-64 academic year over 7,000 students elected to be covered under this program. This plan covers the student for emergency care when he is away from campus during the school year, for care when hospitalized during the summer months when he is not eligible for care at the Health Service, and for surgical benefits the year around.

General Program—The general program to provide periodic health examinations, hospital care, informal health counseling, and supervision of environmental health for the campus has been continued. Foreign students continue to require more Health Service attention than other students, particularly in the area of severe emotional problems.

Medical Care—Over a quarter of a million visits were made to the Health Service dispensary for medical attention during the report period. This is another new high, in spite of the fact that there was no epidemic during the period. Although this total does include eye refractions, it does not include large numbers of services rendered by the dental department, the clinical laboratory, the x-ray department and the pharmacy (see Table IV).

Hospital Care—Fortunately, the rate of hospitalization was relatively low during the biennium; 2,925 students were hospitalized in the University Health Service section for an average stay of 3.9 days. Both the rate of hospitalization per 1,000 students and the average length of stay were somewhat lower than in the previous biennium. These figures do not include the more psychiatric illnesses, which are hospitalized in another section of University Hospitals.

Mental Hygiene—During the biennium, 1,187 new patients were referred to the mental hygiene clinic for care, and an additional 323 cases were carried over from previous years, making a total of 1,510 patients. The total number of interview sessions was 7,161. In addition, 1,130 therapy hours (group therapy and CO₂ therapy) were provided. Minnesota Multiphasic Personality Inventory tests were administered and interpreted for 1,039 patients. Twenty-seven per cent of students referred to the mental hygiene section were referred by other Health Service physicians; 45 per cent were self-referred;

and the remainder were sent in by counselors, faculty advisers, friends and relatives, outside physicians, and other sources. The 45 per cent figure for self-referrals compares with 34 per cent in the previous biennium and is taken as a favorable sign.

Tuberculosis Control—The tuberculosis case-finding program is comprised of several parts. Each new student is required to have a tuberculin test and a chest x-ray if the test is positive. These may be done by the private physician or at the Health Service, as desired by the student. All students who have a periodic health examination also receive the tuberculin test or the chest x-ray. The same procedures are followed for all new faculty and non-academic employees as part of their pre-employment examinations.

During the biennium there were three newly diagnosed cases of tuberculosis. Two cases were early tuberculosis of the lung and the third case was extra-pulmonary only. All three of these cases were in students native to the United States. A total of 486 persons (125 foreign students, 287 other students, and 74 staff members) were listed on the tuberculosis registry at some time during the biennium. For the most part these were persons with arrested tuberculosis and under observation for that reason.

Special Diet Table—Students with diabetes, allergy, peptic ulcers, obesity and some other conditions found the special diet table of considerable value. A total of 145 patients were served 12,383 meals during the biennium. The dietitian counseled an additional 1,278 students who had dietary problems in 3,238 interviews; the latter group did not need to eat at the special diet table.

Specialist Services—Consultation service in all of the medical specialties is available to students in the Health Service. Most of the specialties, but especially orthopedics, have met increased demands during the biennium.

Special Immunizations—For the past several years the Health Service has been designated an official Yellow Fever Immunization Center by the United States Public Health Service. In this capacity the Health Service serves the general public from a five-state area. The number of persons requesting yellow fever immunization has been increasing each year.

During the biennium a new program of pre-exposure rabies immunizations was inaugurated for students and staff of the College of Veterinary Medicine and for certain laboratory workers in the Medical School.

Health Care of Special Groups on Campus—Emergency medical care was given to a large number of special short-term groups on campus, such as Boys State, Juvenile Officers, Continuation Center Registrants, and the audiences of special events such as graduation, athletic contests and the like.

Public Health Nurse—The public health nurse maintains the tuberculosis case registry, supervises the health examinations of food handlers, and counsels students who have special problems of a public health nature. The general physicians in the out-patient dispensary are making increasing use of the public health nurse's special training. One example of this increasing use is that many students now come to the public health nurse for information and advice regarding pre-natal care.

St. Paul Campus—Table V summarizes the out-patient and hospital services of the St. Paul Campus Health Service. The rather large increases in the numbers for medical attention and total services rendered for each of the two years of the biennium are due in large part to the presence on the St. Paul campus of some Peace Corps volunteers; to a new program of pre-exposure rabies immunizations for the College of Veterinary Medicine; and to special immunization procedures carried out for certain other groups on the St. Paul campus.

Faculty Examinations—There were 393 medical examinations given to new members of the academic staff and those promoted to positions implying

tenure. This total compares with 288 such examinations given during the preceding biennium.

Civil Service Examinations—There were 1,691 medical examinations given to persons applying for positions on the regular payroll of the Civil Service staff. This total compares with 1,458 such examinations given during the preceding biennium. Only three prospective employees were found to have disabilities which disqualified them for positions for which they applied.

Environmental Health—The Health Service is the public health department for the University and therefore has a basic responsibility to advise the administration in matters related to the provision of a safe and healthful environment for students, staff, and visiting public. During the biennium there was continued administrative support for this activity. The success of the environmental health and safety program of the Health Service is in large measure dependent on the cooperation and assistance of a number of departments of the University. Plans are reviewed for new construction and major remodeling of existing buildings, research grants proposals are reviewed, and reports of space allocations are reviewed from the standpoint of environmental health and safety implications. The offices of the advisory architect, plant services, university services, purchasing, and inventory have been particularly helpful to the Health Service.

During this biennium environmental health and safety services to the outlying campuses, stations, and facilities have been greatly increased. This has been particularly true of Duluth, Morris, Austin, and Waseca. The Health Service has received excellent cooperation from the administrators at these locations.

The routine surveillance of all off-campus housing to prevent students from occupying unsafe housing units continues to be an important part of the program. During the biennium, 1,200 inspections were made of dwellings providing housing for Minneapolis, St. Paul and Duluth campus students.

Problems of environmental sanitation, including water supply, waste disposal, food hygiene, swimming pool sanitation, and insect and rodent control, are being referred to the Health Service in increasing numbers. During this biennium the use of food and drink vending machines has increased dramatically. There are now about 200 vending machines on the Minneapolis and St. Paul campuses, dispensing up to 1,000 servings per day each. The preparation of the food and drink for these machines and the sanitation of the machines themselves has been under the close scrutiny of the Health Service sanitarians.

The safety engineering and occupational health engineering programs continue to serve a broad segment of the University. Rapidly expanding research and teaching activities keep adding to the physical, chemical and biological health and safety hazards which need evaluation. Reports of Employee and Student Accident Experience for 1962-63 were distributed and were well received.

The use of sources of ionizing radiation for teaching and research purposes continues to increase rapidly. Accordingly, the program of surveillance of these activities through area and personnel monitoring is also increasing. To assist in carrying out the health physics program a Radiation Protection Manual was prepared; appropriate departments and selected individuals were provided with copies of the manual.

One of the problems of a campus-wide nature which has health and safety implications is the ever-mounting volume of chemical and biological wastes with toxic, carcinogenic, fire, and radioactive properties. At the present time the University does not have a satisfactory system for the collection, transportation, and disposal of such wastes. This problem may become critical in the next biennium.

Research—The study entitled "Relationship of Air Pollution to Allergic Diseases," which is being carried out jointly with the School of Public Health, has progressed during the biennium. The United States Public Health Service has continued the support of this work in the amount of \$40,000 for each

year of this period. Also carried forward was a study of the human menstrual cycle under a \$49,000 grant from the Kimberly Clark Corporation, as well as a "panel" study related to this for which \$1,500 per year was granted by the same company. In the 1963-64 academic year the Health Service again participated, along with several other universities and colleges, in a nationwide United States Public Health Service-sponsored study on the incidence of rheumatic fever among college students.

During the biennium the following research projects at the Health Service reached completion: Bacterial Contamination from Hospital Solid Wastes (National Institutes of Health); Design of Linen Chutes to Reduce the Spread of Infectious Organisms in Hospitals (United States Public Health Service); Development of a Method for Microbial Sampling of Surfaces with Special Reference to Reliability (United States Public Health Service); Survey of Microbial Contamination in the Surgical Suites of 23 Hospitals (United States Public Health Service); Preoperational Survey of Environmental Radioactivity (Rural Cooperative Power Association, Elk River, Minnesota); Characteristics of New University of Minnesota Students with Regard to Acceptance or Rejection of Polio Vaccination (Sister Elizabeth Kenny Foundation and Hill Family Foundation); A Study of Vaginal Tampons (Kimberly Clark Corporation); A Fatigue Study (Smith, Kline, and French Corporation).

One major new research project was begun during the biennium for the National Aeronautics and Space Administration on the "Microbiology of Industrial Clean Rooms."

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1954-55	7,251	3,560	10,811
1955-56	8,260	4,078	12,338
1956-57	8,510	4,375	12,885
1957-58	8,223	4,616	12,839
1958-59	8,680	4,940	13,620
1959-60	8,590	4,449	13,039
1960-61	9,689	4,204	13,893
1961-62	10,922	4,511	15,433
1962-63	10,893	4,824	15,717
1963-64	307*	4,587	4,894

* In addition, 10,760 entrance examinations performed by private physicians were reviewed and processed by Health Service physicians.

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS) FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student
1954-55	81,328	4.65
1955-56	91,011	4.62
1956-57	107,060	5.08
1957-58	113,653	5.28
1958-59	113,497	5.09
1959-60	99,021	4.53
1960-61	103,630	4.52
1961-62	114,554	4.59
1962-63	122,993	4.65
1963-64	131,723	4.78

* These totals do not include visits for physical examinations, dentistry, hospitalization, physiotherapy, laboratory or x-ray services.

TABLE III. STUDENT HOSPITAL CORE (MINNEAPOLIS AND ST. PAUL CAMPUS)

Year	Number of Patients			Rate per 1,000 Students (academic year)	Number of Hospital Days			Average Stay in Days
	Mpls.	St. Paul	Total		Mpls.	St. Paul	Total	
1954-55	1,249	38	1,287	73.7	3,909	161	4,070	3.2
1955-56	1,491	48	1,539	78.1	4,839	144	4,983	3.2
1956-57	1,434	40	1,474	69.9	4,609	117	4,726	3.2
1957-58	2,057	471	2,528	117.5	7,037	1,655	8,692	3.4
1958-59	1,561	35	1,596	71.6	5,549	91	5,640	3.5
1959-60	1,412	36	1,448	65.6	5,543	114	5,657	3.9
1960-61	1,278	26	1,304	56.8	4,843	73	4,916	3.8
1961-62	1,395	32	1,427	57.2	5,764	97	5,861	4.1
1962-63	1,419	60	1,479	55.9	5,721	189	5,910	4.0
1963-64	1,419	27	1,446	52.5	5,386	93	5,479	3.8

TABLE IV. SELECTED SERVICES RENDERED (MINNEAPOLIS CAMPUS)

	1962-63	1963-64
Professional Dental Services	22,032	23,467
Laboratory procedures, including BMR and ECG	79,884	69,788*
X-Rays, excluding dental	11,027	12,037
Prescriptions filled	40,511	40,241

* Decrease due to change in entrance examination requirement.

TABLE V. ST. PAUL CAMPUS HEALTH SERVICE: OUTPATIENT DEPARTMENT

Year	Medical Attention	Number of Hos- pital Patients	Number of Hos- pital Days	Total Services Rendered
1954-55	2,428	38	161	4,129
1955-56	3,025	48	144	5,173
1956-57	4,033	40	117	7,612
1957-58	5,006	471	1,655	7,757
1958-59	3,999	35	91	6,274
1959-60	2,730	36	114	4,625
1960-61	2,499	26	73	3,375
1961-62	2,696	32	97	3,888
1962-63	4,398	60	189	6,986
1963-64	2,561	27	93	5,118

—DONALD W. COWAN, *director*

DEPARTMENT OF INTERCOLLEGIATE ATHLETICS

Significant reorganization changes, administrative responsibilities, and realignment structurally of Intercollegiate Athletics, Intramural Athletics, and Men's and Women's Physical Education were established and effected as of July 1, 1963.

This reorganization established Intercollegiate Athletics as a separate department without responsibility administratively and financially for the operation of the newly established School of Physical Education. Finance and facilities administration for Intercollegiate Athletics, the School of Physical Education and Intramural Athletics, establishing dual use of facilities and budget control, was vested jointly in the Director of Athletics and Directors of the School of Physical Education. A new position, Coordinator of Finance and Facilities, responsible to the two directors, was created.

During the past two years 1334 men participated in 368 intercollegiate athletic contests. This was a decrease in participants but an increase in contests.

Minnesota continued to be one of the collegiate leaders in spectator attendance. In this biennium, attendance at home football games was 654,997, and at basketball games, 198,392. An additional 398,885 spectators viewed high school events held on our facilities.

The athletic scholarship program embracing Grant-in-Aid and Williams Scholarship awards provided aid to 423 student-athletes in this two-year period. Conference aid regulations and scholastic requirements incorporated a new factor of Freshman Scholastic predictability. Now no entering freshman may participate in freshman athletics or receive aid without an advance scholastic predictability (based on high school rank and national test scores) of at least 1.7.

Outstanding team accomplishments were made by the golf team winning the Conference Championship in 1963 and the baseball team winning Conference, District 4 and NCAA Championships in the spring of 1964. The swimming team placed fourth in the Conference and fifth Nationally. Basketball placed third in the Conference, only one game out of first place. Individual performances found Lonnie Rubis in wrestling and Charles Morrow winning Conference titles in 1963. In 1964 Wally Richardson, a varsity swimmer, set a new American and NCAA record of 50.3 and placed first in the NCAA 100 yard butterfly event. Richardson also won the National AAU 100 yard butterfly title. Virgil Luken in the 200 yard breast stroke, Louis Kennedy 137-lb. wrestler, and Norris Peterson, two mile indoor track, were Conference Champions. Carl Eller, football, Craig Falkman, hockey, and Ron Wojciak, baseball, were All-American selections in 1963-64.

The following is the record of season play on our golf course, tennis courts, and ice rink:

	Golf		Tennis	Skating	Total
	9 Holes	18 Holes			
1962-63	21,846	36,048	6,544	31,448	95,886
1963-64	21,026	38,201	6,223	31,998	97,448

Each year the department conducts a number of special events in addition to regularly scheduled intercollegiate events. Some are conducted by the department and others are carried on in cooperation with the State High School League or local high schools. A list of these special events follows:

1962-63

1. State High School Championships in basketball, golf, tennis, track, swimming.
2. Minneapolis and St. Paul high school dual meets in basketball, hockey, swimming, gymnastics.
3. Coaches' clinics in baseball, basketball, football, golf, gymnastics, hockey, swimming, tennis, track, wrestling.
4. Conference Track Championship.
5. WAA State Intercollegiate Conference Meet and AAPER Meet in Tennis.
6. Basketball tournaments: District 17, District 18, Region IV, Region V.
7. Gymnastics tournaments: Northwest Gymnastics Meet, Region V.
8. Hockey tournaments: Region II, Region VI.
9. Golf tournament: Region V.
10. Swimming meets: District 18.
11. Tennis: Region V, Twin City High School tournament.
12. Track Tournaments: Twin City, Out-State, Private Schools, Minneapolis High Schools, District 18, Region IV.
13. Wrestling tournaments: Minnesota Invitational Meet.
14. American Red Cross Life Saving classes.

STATISTICS ON INTERCOLLEGIATE ATHLETICS FOR 1962-63 AND 1963-64

Activities and Head Coaches	Year	Total No. Games		No. Conference Games		No. Non-Conference Games		Total No. Receiving Athletic Instruction Including Freshmen		No. Varsity Candidates		No. Varsity Candidates Eligible for Intercollegiate Competition		No. Having Competition		No. "M" Awards		No. Freshmen Candidates		No. Freshman Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
		62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64	62-63	63-64
		Baseball Siebert	35	36	15	14	20	22	126	122	38	35	34	33	28	23	18	12	88	87	22	23	25	25	10	11	0	0
Basketball Kundia	24	24	14	14	10	10	62	47	19	16	17	15	15	15	11	11	43	31	13	14	12	17	12	7	0	0	
Cross Country Kelly-Griak	5	5	2	2	3	3	22	36	12	12	11	11	8	8	4	7	10	24	3	15	4	4	1	1	0	0	
Football Warmath	9	9	7	7	2	2	160	137	83	67	64	65	40	42	37	34	77	70	35	28	6	3	2	6	1	0	
Golf Bolstad	10	10	5	8	5	2	37	31	17	17	10	15	9	9	8	7	20	16	11	12	8	3	2	7	0	0	
Gymnastics Bird-Piper	10	14	7	7	3	7	24	32	15	17	11	9	9	8	5	5	9	15	5	6	5	7	5	7	0	0	
Hockey Mariucci	30	26	22	16	8	10	65	55	30	31	23	26	23	18	19	18	35	24	18	18	17	14	9	11	4	1	
Swimming Mowerson	12	11	8	9	4	2	58	56	35	31	29	25	29	25	18	17	23	25	9	16	11	9	1	2	0	0	
Tennis Lewis	20	23	8	13	12	10	27	22	10	12	9	10	7	8	7	8	17	10	8	7	5	6	15	16	0	1	
Track Kelly-Griak	8	11	6	7	2	4	58	68	28	32	27	28	20	27	16	14	30	36	7	21	4	6	4	5	0	0	
Wrestling Johnson	17	19	12	12	5	7	38	49	18	21	15	19	13	13	11	9	20	28	12	6	6	14	9	5	2	0	
TOTALS	180	188	106	109	74	79	677	655	305	291	250	256	201	196	154	142	372	366	143	166	103	108	70	78	7	2	

1963-64

1. Host to U.S. Olympic Team and U.S. Army in hockey.
2. State High School Championships in basketball, track, tennis, swimming.
3. Minneapolis and St. Paul High School dual meets in basketball, hockey, track, swimming, gymnastics.
4. Coaches' clinics in basketball, baseball, football, golf, gymnastics, hockey, swimming, tennis, track, wrestling.
5. Basketball tournaments: District 17, District 18, Region IV, Region V, Mid-East NCAA Regional Playoffs.
6. Gymnastics meets: Region V, Northwestern Open.
7. Hockey tournaments: Region I, Region II, Region VI.
8. Track meets: Northwest Open, Twin City Metropolitan high schools, Out-state high school, Private Schools, Minneapolis High School Relays, District 18, Region IV, Minneapolis High School Finals.
9. State High School Golf Tournament.
10. District 18 swimming championships.
11. Twin City High School tennis tournament.
12. American Red Cross Life Saving classes.
13. Big Ten Conference Swimming Championships.
14. Big Ten Conference Golf Championships.

New features and promotions to develop better public relations and provide community service instituted in 1963-64 are as follows:

1. Football Poster and Ticket Information Tour to 187 Minnesota towns and cities by 12 staff members in June, 1964.
2. Summer Baseball clinics conducted by Coach Dick Siebert and staff in 30 Minnesota communities in June and July, 1964.
3. Out-state visitation by coaching staff at high school coaches' clinics and outings at Crookston, Virginia, Bemidji, Winona, and River Falls, Wisconsin.
4. "M" Club regional meetings, arranged and participated in by Intercollegiate staff at Willmar, Rochester, Mankato, Detroit Lakes, St. Cloud, Duluth and Hibbing.

—MARSHALL W. RYMAN, *director*

DEPARTMENT OF STUDENT UNIONS

"Something there is that doesn't love a wall. That wants it down. . ."

When poet Robert Frost wrote those lines, he was thinking of people—people hemmed in by unreasonable barriers that they themselves have created, either knowingly or unknowingly. In a sense, the Department of Student Unions is meeting a commitment to keep such wall-building at a minimum in the University community: it helps the "loners" discover the rewards of cooperation; it enables potential leaders to develop their abilities; and, for all, it provides opportunities for participation in educational and cultural programs that are both satisfying and personally enriching.

During the biennium, the Department has served the students of the Minneapolis and St. Paul campuses through its four branches—Coffman Memorial Union, the West Bank Union Lounge, the St. Paul Student Center, and the Village Union.

With the substantial growth of the University, the Department faces a challenge that increases almost daily. The need during the biennium that resulted in extension of Union services to the new Minneapolis West Bank area is but one example. But to say that the Unions have stretched to meet the situation is not to say that they have done it altogether effortlessly, or without adding to already heavy departmental burdens.

The role of Coffman Memorial Union, the most used building on the Minneapolis Campus, gives a picture of the enrollment pressure. When it was built, the Union facility served a student community of 14,000. The 1963-64 enrollment exceeded 29,000. During the last half of the biennium, the daily

traffic at Coffman Union was some 12,000—close to the total University enrollment when the Union first opened its doors to students.

The West Bank operations of Coffman Union are centered in a lounge in the Business Administration Building. They strive to meet the needs of some 4,000 students who now have classes in that area. With future education plant expansion on West Bank, it is conceivable that the Union will be hard-pressed for adequate facilities there. It seems certain that a separate Union building will eventually be necessary. Committee workers already are trying to anticipate that need with plans. Present estimates are that a West Bank Union with facilities comparable to those at Coffman Union would mean an investment of about \$6 million.

During the biennium, the Department has been phasing out one section of its operation—that at University Village, a married students' housing area which the University itself is gradually eliminating. No more students are being admitted for housing in the Village. At the end of the 1963-64 fiscal year, the Village Union building was closed. But while the Village is in operation, the Union is endeavoring to continue certain needed services.

Besides moving into a new area, the Unions have responded to the increasing enrollment pressures by expanding their programming functions, as possible. Attendance at Union events reflected the stepped-up efforts. At Coffman Union, for example, where Union-sponsored events drew 132,707 persons in the 1961-62 period, the attendance figures for the years of the current biennium were 167,780 and 198,342. If figures for patronage of Union-operated service areas were added, the biennium totals would be 228,707 and 263,451.

Educational aspects of Union programming continued to receive special emphasis, especially in such events as the "Potpourri" programs which brought faculty and students together at West Bank for discussions; the St. Paul Student Center's "Sanka Seminars"; the Great Books Discussion program at the Village Union; and Coffman Union's "Citizens Series."

The biennium also saw the groundwork completed for display of the historic John Fitzgerald Kennedy Library memorial exhibit at Coffman Union during the summer of 1964. Only 23 cities in the nation were privileged to have the exhibit, and only two of the display sites were universities. Through efforts of the Department, University of Minnesota students and state residents received the benefits of the traveling exhibit. These highlights bear out the opening message: the Unions are a creative force in the University community and are at the forefront of efforts to make the time spent on campus more fruitful and meaningful for every student.

Coffman Memorial Union—One of the major decisions of the biennium was the one to extend Union operations to the West Bank area. Shortly after the start of the 1963 spring quarter, the West Bank Union Lounge was opened, with one full-time program staff member, in the Business Administration Building. During the first quarter, there were three program areas; at the end of the biennium, there were five; and by fall, 1964, there will be six. Union-sponsored events have risen steadily, and so has attendance. One of the imaginative and popular series was the closed-circuit television film program dealing with World War II. The Department of History and Department of Radio and Television cooperated in sponsorship. Another stimulating program was "Elections '64."

At Coffman Union, the number of programs increased. In the first half of the biennium there were 446 Union-sponsored events at Coffman Union, and in the second there were 756. Certain activities showed a marked increase in participation. One was the Ski Train, during winter quarter 1963, which drew 390 persons—a rise of 150 per cent over the previous year. Educational and cultural events continued to be popular, with such themes as "Meet the Prof.," "How to Chart the Stock Market," and "The Life of Tolstoy." The University's belief in the maturity of the student and in the right of free speech found expression in the use of Union facilities by guest speakers, some of whom were controversial. Among them, during the biennium, were conservative editor and spokesman William F. Buckley, Jr.; University Prof. Mulford Q. Sibley, and St. Paul official Milton Rosen, who debated on academic freedom; and George Lincoln Rockwell. The Sixth Annual Minnesota

All-College Art Show, held at the Union, attracted exhibits from more than 15 colleges and universities. And the Creative Arts Festival, the seventh in an annual series, embraced the Tyrone Guthrie Convocation and a panel discussion by McKnight Fellows.

A number of facilities were improved during the biennium. The Union's student radio station, WMMR, completed a major overhaul of its technical facilities. Coffman Memorial Union also opened a Graduate Commons Room, offering graduate students a place to meet, study, or just relax. Adding to the attention given the arts was the completion of the Coffman Union Fine Arts Lounge, with specialized, adjustable gallery lighting, and a flexible layout that will allow accommodation of small discussion groups and other related meetings.

An interesting study during 1963 spotlighted the impact of the leadership training that the Union provides. A poll of former members of the Union Board Council, a project for outstanding freshmen, found that 95 per cent would recommend strongly to incoming students that they participate in the Council, because of the benefits.

A unique experience during the second half of the biennium was the first full-scale evacuation of Coffman Union in its 24-year history. The cause was an anonymous call warning of a bomb in the building. The building was cleared, and a search instituted. Upon completion of the search, police advised that all those who participated should leave the building and I, as director and the last man out of the building, lock the Union until the "deadline" had passed, uneventfully. Despite the inconvenience of the incident, it did provide valuable insight into techniques of evacuating the building occupants in event of an actual emergency.

St. Paul Student Center—The St. Paul Student Center noted considerable increases in program attendance in certain areas during the biennium. In comparison with the previous period, the biennium reflected such gains as dance programs, 3,810; international events, 1,123; and music and shows, 3,623.

Since the last report, the Student Center has provided the campus with numerous stimulating art exhibits, including works from Minnesota, Scotland, and Hong Kong, among other places. The 12th Annual Rural Art Show, presenting 300 Minnesota artists and sculptors, provided a focus for gallery tours, forums, and illustrated lectures. The display areas, which have housed educational as well as cultural exhibits, saw a peak load in the 1964 winter quarter, when 12 shows were presented.

Early in the biennium, the "Toasters," a co-educational public-speaking organization, was organized and received substantial promotional assistance. The group combined the Toastmasters' and Toastmistresses' organizations, causing some decline in the overall number of events in the related program area.

There has been no lack of outstanding musical programs. The fare has ranged from folk music, with noted musician and folklorist Alan Lomax, to the Minneapolis Civic Orchestra, to New York performers singing Broadway hits by Rodgers and Hammerstein. An inspection of records demonstrate the value of Student Center facilities and campus initiative in bringing quality programs to the students: musical performances with a performance value of well over \$1,000 were provided at a total cost as low as about \$60 per show.

One of the notable programs brought in from "outside" during the report period occurred when the National Aeronautics and Space Administration set up its Spacemobile exhibits and demonstrations for a two-day stay at the Student Center.

Village Union—After 16 years' service to married University students in the University Village area, the Village Union's doors were locked for the last time on June 30, 1964. However, provisions were being made to continue certain Union programs, particularly the Playcenter Nursery School and the recreation-study facility.

The decision to phase out the Village Union operation was based on the University's decision to gradually eliminate the Village housing area. During the past two years, the dwindling population had cut participation at the

Union to a point where operations were not economically feasible. During the biennium, however, the Village Union continued to fill its role as the center for married students and their families in the Tri-Village area, sponsoring such activities as the annual "Kiddie Karnival": with its mechanical rides, live ponies and variety of concessions; the Exchange Sales, where families of students could swap baby clothes and other garments for anticipated or growing offspring; the charm school; a Great Books Discussion series; and an airing of election issues.

Classified Organizational Use of Coffman Memorial Union, with attendance figures, for the 1963-64 biennium

	1962-63	1963-64
Union Sponsored Events (Includes West Bank Lounge)	262,390	228,709
Alumni Organizations	878	1,066
Class Meetings	145	66
Cooperative Organizations	35	53
Faculty Organizations	2,630	2,490
Fraternities and Sororities	1,720	6,182
Governing Bodies	6,058	6,045
Honorary Organizations	1,376	1,671
Language and Cultural	4,757	5,154
Orientation	18,382	15,483
Political Organizations	4,951	6,981
Professional and Department	46,652	34,345
Recreation and Hobby	6,079	4,894
Religious Organizations	14,468	9,659
Senate Committees	224	
Social Service Organizations	2,391	2,640
Special Events	1,859	3,626
Non-University Organizations	4,590	4,077
Information Desk	51,266	37,944
Recreational Games: Billiards	68,814	69,762
Bowling	156,980	170,377
Table Tennis	8,070	8,302
Game Room	50,513	43,765

Classified attendance figures for Student Center—St. Paul Campus, including patronage figures, for the 1962-64 biennium

Area	1962-63	1963-64
Dance—Instruction, Homecoming, parties	6,305	6,516
Discussion—Toasters, convocation	3,271	2,851
Fine Arts and Crafts—Demonstration, exhibits, films, faculty use	3,437	2,129
Graduate and Married Students—Activities, socials, tours	1,213	224
Hospitality—Building tours, coffee hours, open house, "Sanka Seminars"	5,976	4,406
International Students—Discussions, socials	437	1,504
Outings and Games—Tournaments, Co-Rec nights, bridge instruction	1,105	3,855
Music and Shows	7,284	5,440
Special Events—Counselor orientation, leadership seminars, freshmen orientation	1,272	1,161
Meetings of Clubs, Committees, and Other Programs—Non-Union sponsorship	64,926	57,108
Information Desk	80,386	77,502
Recreational Games: Billiards	37,626	37,077
Bowling	20,613	19,075
Table Tennis	5,514	5,108

Classified attendance figures for the University Village Union for the 1962-64 biennium

Areas and Committees—Events	1962-63	1963-64
Village Union Board of Governors sponsored activities:		
Adult Program Area—Open house, dances, arts and crafts, art exhibits	2,184	653
Children's Program Area—Playcenter Nursery School, dance lessons, parties	5,374	5,220
General Program Area—Meetings, social hours, study groups, panel discussions	15,734	9,222
Non-sponsored Village Union Board of Governors activities:		
Adult Program Area—Parties, Great Books Discussion groups, volleyball	1,627	1,993
Children's Program Area—Cub Scouts, International Children's Song and Dance, Bluebirds, Sunday School	2,439	585
General Program Area—Tri-Village meetings, Civil Defense committee, Minnesota Elementary Education	7,222	4,864

—GORDON L. STARR, *director*

DEPARTMENT OF UNIVERSITY RELATIONS

General—The work of the Department of University Relations is to promote public knowledge and understanding of the University's objectives and to ascertain and record its progress toward those objectives. A comprehensive flow of news about the University to its staff members and the general public is maintained through the use of radio, television, the press, and other news media. The Department assists with the publication of special brochures and pamphlets, prepares citations, assists in and cooperates with major University fund-raising projects, supervises regular and special campus functions, and participates in the formulation of University policy.

Information and News Program—The University News Service is the public information center of the University and is charged with keeping the general public informed of the University's plans, activities, and accomplishments. The News Service prepares and distributes news releases to newspapers, radio and television stations, magazines, and wire services. All phases of University activities are covered by the News Service, except those of the Athletic Departments and the St. Paul Campus, which have their own publicity services. Areas covered include academic programs, curriculum and admission changes, grants, lectures, research activities, conferences, scientific discoveries, cultural events, commencements, convocations, conventions, enrollment, student activities, building programs, legislative requests, faculty appointments, and achievements.

The News Service assists in the preparation of many television programs, magazine articles, and films. During this biennium, for example, the News Service cooperated in preparing a series of color photographs for a national magazine, provided student models and campus backgrounds for several magazine articles, furnished background information for documentary films, and helped arrange the appearance of University representatives on television and radio programs.

News conferences and individual interviews for visiting scientists, educators, statesmen, and other dignitaries and for University officials and faculty are arranged by the News Service. This office also provides articles, photographs, and information to specialized publications—including various University publications, encyclopedias, and such agencies as the United States Information Agency; and it assists authors in the preparation of material relating to the University. The News Service works with organizations in publicizing and promoting fund-raising campaigns involving the University.

The News Service maintains a file of biographies and portraits of University staff members, photographs of University scenes and activities, and voluminous working files of newspaper and magazine clippings relating to the University, its activities and its people. The News Service operates in close liaison with University Archives in the collection and preservation of historical material pertaining to the University.

The *Staff Bulletin* was published semi-monthly during the biennium and served to keep staff members informed of significant events concerning the University. The *Staff Bulletin* replaced the earlier publication, *The Minnesotan*, which was discontinued for reasons of economy in 1961.

The Department is also responsible for publishing the *Staff Directory*. A number of changes were instituted in the system and method of production of the *Staff Directory* early in the biennium. These changes saved a substantial amount of money. Since it was generally felt that *The Minnesotan* better represented the University and better served its people, the savings realized in the revised system of publication of the *Staff Directory* will be used to resume publication of *The Minnesotan* in the fall of 1964.

Other important publications prepared by the Department included *The Needs of the University*, a summary of the legislative request, of which approximately 129,000 copies were distributed; the *Biennial Report*, a detailed report of the University's operations; and the *President's Report*, which is an easily readable, attractive summary of the *Biennial Report* prepared for wider readership than is usually associated with that report.

Fund-Raising—At the close of the preceding biennium, the Greater University Fund was dissolved and its responsibilities divided among the University of Minnesota Alumni Fund, the Minnesota Foundation, and the Special Projects Program. The Department of University Relations thus assumed a large responsibility for fund-raising when the Special Projects Program was established within the Department.

The Special Projects Program receives and acknowledges for the University a great variety of gifts. These gifts are deposited in appropriate funds. If, for example, a gift is restricted, it goes, according to the donor's wishes, into research, loan and scholarship, or development funds, or into existing special interest funds such as the Cedar Creek Natural History Area Fund or the Friends of the Library Fund. If a memorial gift is unrestricted, it goes into either the University of Minnesota Memorial Fund (for gifts in memory of University faculty-staff members or their spouses) or the General Memorial Fund. If a non-memorial gift is unrestricted, it is allocated by a committee to the area of greatest need.

Following the establishment of the Special Projects Program, the Department received, acknowledged, and deposited \$259,995.31 during this biennium. Each donor received a letter of thanks, an official receipt for tax purposes, and, in the case of memorial donors, a prepared memorial card in a stamped, addressed envelope which the donor was invited to mail to the family of the memorialized person. Names of faculty-staff members or their spouses who were memorialized were entered in a handsomely-bound *Book of Honor*, which is available for display.

Special Projects also aided directly in fund-raising for such projects as the Guy Stanton Ford Room in the Social Science Building, West Bank, and the Dr. Lorenz G. Straub Memorial Fund. Working with the departments or persons involved, Special Projects helped plan these projects and prepared promotion pieces and mailings for them.

In addition to these Special Projects activities, the Department helps to convey the University's appreciation to all its benefactors, whether they are donors of small memorial gifts or of large building funds. Personal contacts are made with many benefactors. They are sent University publications, and hospitality is extended to them whenever they visit the campus.

Functions and Special Events—The Department continued during the biennium as operating and administrative agency for opening convocations, presentation of the Outstanding Achievement and Regents' awards, Cap and Gown Day convocations, commencements, University receptions for graduating classes, and the annual party for retiring staff members. The following are only a small sample of the Department's activities in this area.

Material for the Cap and Gown Day honors bulletin is compiled by the Department, and marked copies of the bulletin are sent to the sponsors of scholarships, fellowships, and prizes.

On the evening of each June commencement, the Department sponsors a buffet supper in Coffman Union for the convenience of those graduates and their parents who are on campus for the evening ceremony.

The Department of University Relations co-operates with the Minnesota Junior Chambers of Commerce and the Minnesota Alumni Association in sponsoring University of Minnesota Week, an event which marks the anniversary of the founding of the University. For this occasion, the Department arranges to have University staff members speak before civic, professional, and alumni groups. University Week displays prepared by the Department are exhibited in many business establishments in metropolitan areas.

Among the special informational programs conducted by the Department is the visit to the University, during each legislative session, by the members of the Dome Club, an organization of wives of Minnesota Legislators. The Department also sponsors the annual Legislators', Editors', and Broadcasters' Day, which is held on the day of the first home football game and which features exhibits from about 40 University departments and units, a special luncheon, and attendance at the football game.

A new function, the annual New Faculty Orientation Program, was instituted during this biennium. This program provides an opportunity for new faculty members and their families to meet one another and the president, vice presidents, deans, and other faculty members of the University. New faculty orientation is held early in the fall, with a program of speeches and a reception. Facilities, entertainment, and refreshments are provided for young children.

The opening of new buildings on the new West Bank, Minneapolis Campus, occasioned many special events. An open house was held May 4, 1964, for legislators, radio and TV newsmen, newspaper columnists and editors, members of the Board of Regents, trustees of the Minnesota Foundation, and University staff members. An open house for the general public was held the next day.

Among the many dedications which took place in this biennium were those of the Dr. Guy Stanton Ford Room on April 19, 1964, and the Ralph H. Brown Library on May 3, 1963, both in the Social Science Building, West Bank. Ground breaking ceremonies were held for an addition to the Variety Club Heart Hospital on May 26, 1964.

Many special events call for careful planning months, even years, in advance. The Mayo Centennial celebration, the hundredth anniversary of the births of the Doctors Mayo and the fiftieth anniversary of the Mayo Foundation, scheduled for September 1964 in Rochester, Minnesota, was organized by the Department in connection with the Mayo Foundation during this biennium. As early as November 1, 1963, the *Staff Bulletin* carried a detailed account of the plans for this celebration.

The Department hosted such diverse events as the American College Public Relations Association District Conference and the Perry Como show, which was televised from Northrop Memorial Auditorium.

Tours of the Campus—Diplomats, organizations, prospective students, parents, and many other visitors from all sections of the United States and many foreign countries tour the University each year. The Department of University Relations provides tour guides who are able to show the visitor the campus as a whole, as well as the particular aspects of the University of interest to him. These guides are students, selected on the basis of familiarity with the University, responsibility, and enthusiasm. The Department tries to maintain a ratio of 1 guide to 10 visitors.

Policy—Members of the Public Information Council meet weekly to coordinate the many informational and public relations activities of the University. An outline of items for discussion at each meeting is prepared by the director of the Department of University Relations. The Council is composed of representatives of the Department of University Relations, the Athletic Department, the Agricultural Extension Services, the Audio-Visual Education Service, the General Extension Division, the Department of Radio and Television, the University Theatre, the Minnesota Alumni Association, the World Affairs Center, the Department of Student Unions, the University Press, the Minnesota Medical Foundation, the Department of Concerts and Lectures, and Coffman Memorial Union.

—WILLIAM L. NUNN, *director*

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